
**National Alliance of State Animal
and Agricultural Emergency
Programs (NASAAEP)**

**Disaster Veterinary Care: Best
Practices**

**NASAAEP Disaster Veterinary Care
Best Practices Working Group**

June 2012

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Introduction

Today, more than 60 percent of American households own a pet, an increase from 56 percent in 1988¹. Nearly half of pet owners consider their animals to be members of the family². Traditionally, during major disaster responses such as earthquakes and hurricanes, the primary focus of first responders has been on human rescue efforts. However, as we saw in hurricanes Katrina and Rita, pet owners often stayed behind at the risk of their own safety to ensure the safety of their pets. This fact underscores the need to factor pets into any major human rescue effort.

The first half of this report is intended to inform local and state emergency program managers about Federal regulations regarding incorporating animals into emergency management plans and to illustrate the complexity of developing animal response teams. The second half of this report collects best practices and relevant information from various government and nonprofit agencies pertaining to the topics of pre-disaster planning and disaster response for household pets for animal first responders, animal shelter managers, and veterinarians. The NASAAEP veterinary medical care best practices working group will address issues of exotic animals, large animals, and working animals in future reports.

Background

As a result of the 2005 hurricane season, the Pets Evacuation and Transportation Standards Act of 2006 (PETS Act) was enacted. The PETS Act amends the Robert T. Stafford Disaster Relief and Emergency Assistance Act to require the Director of the Federal Emergency Management Agency (FEMA) to ensure that state and local emergency preparedness operational plans address the needs of individuals with household pets and service animals prior to, during, and following a major disaster³. This legislation was designed to ensure local, state, and federal governments plan for evacuation, rescue, sheltering, and essential needs of household pets and service animals in the wake of a disaster.

FEMA has released *Developing and Maintaining Emergency Operations Plans Comprehensive Guide (CPG) 101 version 2.0*⁴ to provide guidance for incorporating Household Pets and Service Animals Plans (HPSAPs) into State, Territorial, Tribal, and Local emergency operations plans (EOPs). Each HPSAP should comply with the PETS Act⁵, which requires the provision of essential assistance (e.g., rescue, care, shelter, and basic needs) to individuals with household pets and service animals, and to their animals, following a disaster.

¹ American Veterinary Medical Association. U.S. Pet Ownership and Demographics Sourcebook, 2007. (<http://www.avma.org/reference/marketstats/sourcebook.asp>).

² American Veterinary Medical Association. Press release: The human-animal bond revisited across the globe, July 19, 2003. (http://www.avma.org/press/releases/030719_hab.asp).

³ Scott BD et al. Establishing Large Animal Evacuation Shelters in Texas. *J of Equine Vet Sci* 2009; 29(5): 466-67.

⁴ CPG 101 may be found on the FEMA website at www.fema.gov/about/divisions/cpg.shtm.

⁵ United States Congress. Pets Evacuation and Transportation Act of 2006. Public Law 109-308. Approved January 3, 2006. (www.govtrack.us/congress/bill.xpd?bill+h109-3858)

In support of the PETS Act, the Federal Emergency Management Agency (FEMA) issued Disaster Assistance Policy (DAP) 9523.19 entitled, *Eligible Costs Related to Pet Evacuations and Sheltering*. This policy guides the reimbursement process for governments seeking public assistance for pet-related emergency activities. According to DAP 9523.19, governments that receive evacuees from areas declared a major disaster area may seek reimbursement under mutual aid protocols through the affected and supported states. For more detail, please refer directly to DAP 9523.19, which may be found on FEMA's Public Assistance webpage⁶ and is attached to this document as Appendix A. DAP 9523.19 details eligible reimbursements related to shelter facilities, supplies and commodities, labor, equipment, emergency veterinary services, transportation, shelter safety and security, cleaning and restoration, and the removal disposal of animal carcasses.

Household Pets, Service Animals, and Assistance Animals Definitions

The term "household pet" refers to a domesticated pet, such as a dog, cat, bird, rabbit, rodent, or turtle that is traditionally kept in the home for pleasure rather than for commercial purposes and can travel in commercial carriers and be housed in temporary facilities. Household pets do not include reptiles (with the exception of turtles), amphibians, fish, insects/arachnids, farm animals (including horses), and animals kept for racing purposes. Owners may arrive at public shelters with pets that do not fall within the definition of a "household pet" as outlined in DAP 9523.19. Individual jurisdictions should develop procedures to accommodate citizens and these animals; however, such activities will not be eligible for reimbursement.

The Americans with Disabilities Act (ADA) redefined its definition of "service animal" in 2010 to be a dog that has been individually trained to do work or perform tasks for the benefit of an individual with a disability (see Appendix B)⁷. The rule states that other animals, whether wild or domestic, do not qualify as service animals. Dogs not trained to perform tasks that mitigate the effects of a disability, including dogs used purely for emotional support, are not service animals. The final rule also clarifies that individuals with mental disabilities who use service animals trained to perform a specific task are protected by the ADA. The rule permits the use of trained miniature horses as alternatives to dogs, subject to certain limitations. To allow flexibility in situations where the presence of a horse would not be appropriate, the final rule does not include miniature horses in the definition of "service animal."

Service animals are not considered household pets or companion animals. Service animals are not required to be licensed or certified by a jurisdiction. It can be challenging for first responders and shelter staff to delineate service animals from pets or companion animals. The ADA does not require service animals to have specific training. A service animal may be excluded from a shelter only if its behavior is a direct threat to the health or safety of people. During a disaster, a service animal is expected to accompany its owner in rescue/evacuation vehicles and shelters, clinics, and any other facility related to the emergency (e.g., a Federal

⁶ Federal Emergency Management Agency, Disaster Assistance Directorate. Disaster Assistance Policy 9523.19: Eligible Costs Related to Pet Evacuations and Sheltering, 2007. (http://www.fema.gov/government/grant/pa/9523_19.shtm).

⁷ ADA 2011 Revised Requirements – Service Animals (http://www.ada.gov/service_animals_2010.pdf)

Recovery Center). Every effort must be made to provide service animals with food, water, emergency veterinary service, and other basic necessities throughout the duration of the disaster.

The U.S. Department of Housing and Urban Development (HUD) recognizes another category of animals classified as assistance animals. A memo from Sara Pratt, HUD Deputy Assistant Secretary for Enforcement and Programs, indicated that under the Federal Housing Act (FHAct) and Section 504, individuals with a disability may be entitled to keep an assistance animal as a reasonable accommodation in housing facilities that otherwise impose restrictions or prohibitions on animals. In order to qualify for such an accommodation, the assistance animal must be necessary to afford the individual an equal opportunity to use and enjoy a dwelling or to participate in the housing service or program. Further, there must be a relationship, or nexus, between the individual's disability and the assistance the animal provides. If these requirements are met, a housing facility, program or service must permit the assistance animal as an accommodation, unless it can demonstrate that allowing the assistance animal would impose an undue financial or administrative burden or would fundamentally alter the nature of the housing program or services⁸. States may have laws that further define the assistance animal classification.

Recovery

FEMA defines recovery as the development, coordination, and execution of service- and site-restoration plans; the reconstitution of government operations and services; individual, private-sector, nongovernmental, and public-assistance programs to provide housing and to promote restoration; long-term care and treatment of affected persons; additional measures for social, political, environmental, and economic restoration; evaluation of the incident to identify lessons learned; post-incident reporting; and development of initiatives to mitigate the effects of future incidents⁹.

Restoring veterinary infrastructure to the pre-disaster state should be a major goal for planners and disaster managers. Responders should not expect to replace or supersede operational veterinary infrastructure in the affected area. Instead, responders can assist affected veterinarians and help veterinary infrastructure return to pre-disaster levels in their communities.

⁸ US Department of Housing and Urban Development, Office of Fair Housing and Equal Opportunity Memo dated February 17, 2011 (<http://www.fairhousing.com/include/media/pdf/serviceanimalmemo.pdf>). Appendix C has complete memo.

⁹ FEMA National Response Framework (NRF) Resource Center Glossary/Acronyms (<http://www.fema.gov/emergency/nrf/glossary.htm#R>).

Pre-Disaster Preparedness

Household Pet Responder Training

Credentialing

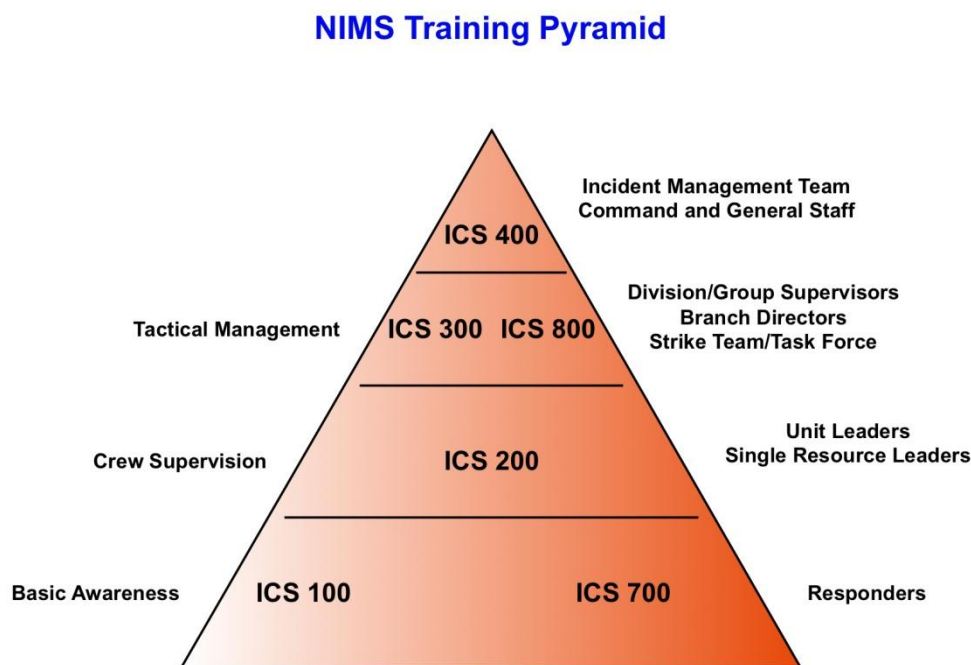
Credentialing for household pet disaster responders, including veterinary personnel, is critical to assure a well-managed response. Considerations in credentialing include basic core requirements, educational background, and physical and mental health capabilities. Household pet disaster responders should consider themselves part of the overall disaster response and are subject to the same requirements as other disaster response personnel.

When interstate deployment is required, credentialing and identification will help facilitate a smooth response and ensure that jurisdictions receive trained personnel. Some animal response teams or state jurisdictions may require volunteers to have a criminal background check prior to allowing membership to an applicant or deployment for a member.

Household Pet Responder Training

The National Incident Management System (NIMS) has set basic Incident Command System (ICS) training levels for emergency responders (see Figure 1).

Figure 1 – NIMS Training Pyramid



Most animal response organizations require the FEMA basic responder training to be completed, which includes:

1. Federal Emergency Management Agency (FEMA) Independent Study (IS) 100: Introduction to Incident Command System.
<http://training.fema.gov/EMIWeb/IS/IS100B.asp>;
2. FEMA IS 200: ICS for Single Resources and Initial Action Incidents.
<http://training.fema.gov/EMIWeb/IS/IS200B.asp> (many, but not all organizations require this training);
3. FEMA IS 700: Introduction to NIMS.
<http://training.fema.gov/EMIWeb/IS/is700a.asp>

Animal response teams and FEMA may recommend further training as animal responder position classifications are developed. These may include:

1. All Hazards Position Specific Training
2. An Introduction to Hazardous Materials Course Code: IS-5.a
3. Animals in Disasters: Awareness and Preparedness Course Code: IS-10.a
4. Animals in Disasters: Community Planning Course Code: IS-11.a
5. Hazardous material training courses
6. Livestock in Disasters: Course Code: IS-111
7. USDA Command and General Staff Training (S-420) or NIMS Command and General Staff Training
8. School of Public Health at the University at Albany (SUNY): County Animal Response Team.
<http://www.ualbanycphp.org/learning/registration/tab.cfm?course=cart&s=Overview>
9. Animal First Aid course or Veterinarian or Veterinary Technician Degree or American Red Cross or equivalent course.
10. Human First Aid. CPR is recommended, American Red Cross or equivalent course.
11. A Psychological First Aid course. National Child Traumatic Stress Network: Psychological First Aid Online - http://nctsn.org/nccts/nav.do?pid=typ_nd or American Red Cross Psychological First Aid or an equivalent course.
12. 2011 Feline Friendly Handling Guidelines.

For additional training recommendations, see the NASAAEP Training Best Practices Working Group report.

Household Pet Disaster Veterinary Responder Positions

The following position descriptions supporting the provision of veterinary medical care include the *additional minimum* requirements for veterinary personnel to become credentialed for an animal response team position.

If a volunteer has considerable experience relevant to the position, some training requirements can be waived. Credentialing is a *pre-incident* activity.

Animal Technician

Description:

- Assesses animal behavior;
- Safely and humanely handles animals;
- Identifies animals for tracing and reunion;
- Counts animal populations;
- Ensures appropriate sanitation for animals;
- Feeds and waters animals;
- Exercises animals;
- Assists with animal health care;
- Assists with animal depopulation;
- Assesses needs of animals;
- Collects specimens from animals;
- Assists with establishing and maintaining medical records;
- Identifies and counts animal premises.

Table 1 - Animal Technician Requisite Training/Experience

| | |
|-------------------|---|
| Training | <ul style="list-style-type: none">• Certified veterinary technician preferred• Animal Handling course• Emergency Animal Sheltering course http://www.ualbanycphp.org/learning/default.cfm• Zoonosis, Preparedness, and Public Health http://www.ualbanycphp.org/learning/default.cfm |
| Experience | <ul style="list-style-type: none">• Preparing Medical records• Management of relevant animal populations• Working in animal facilities• Safe and humane handling of relevant species• Basic husbandry of relevant species• Works with companion animals, equines, livestock, avian, or non-domesticated species. |

Veterinarian

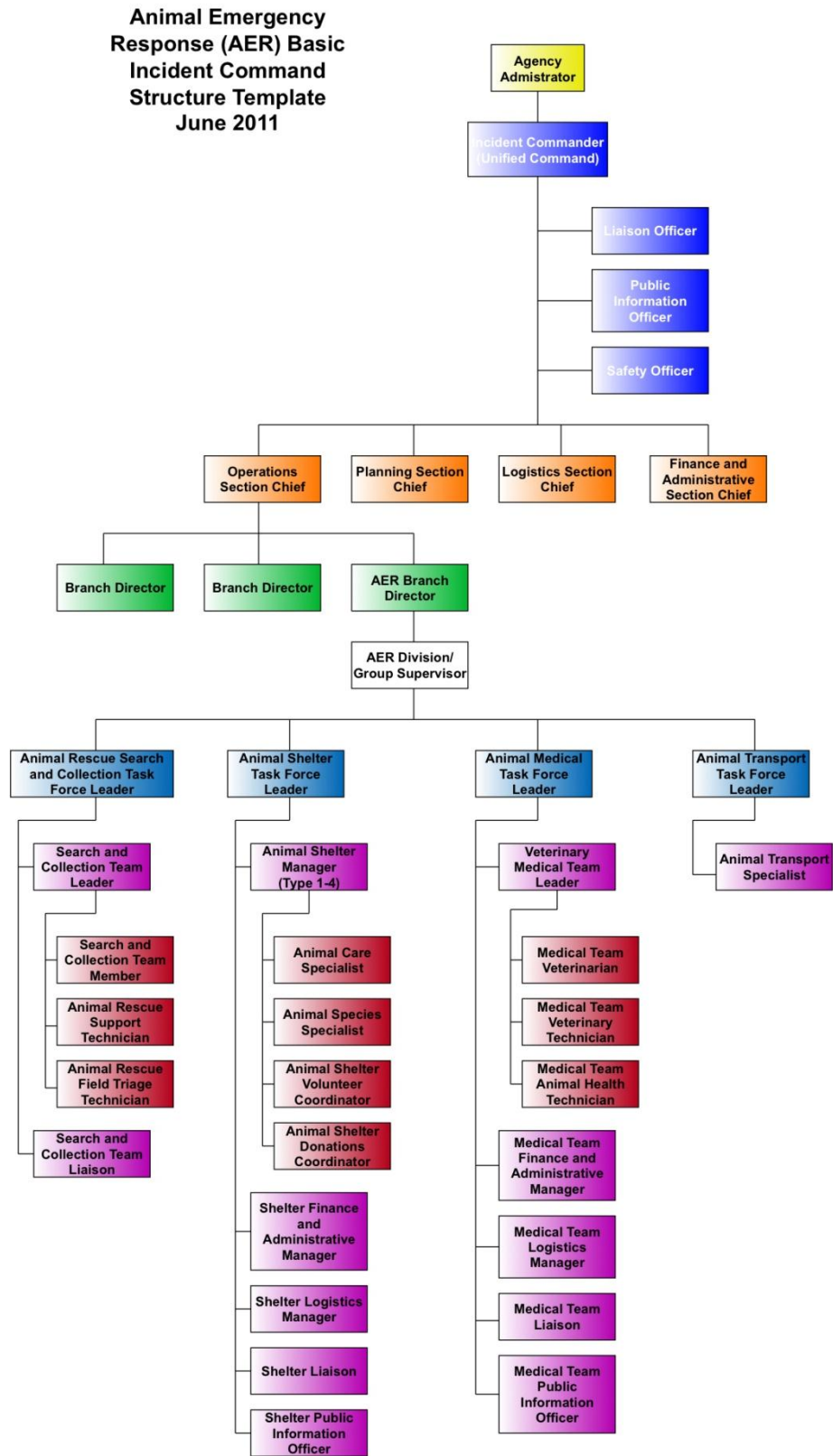
Description:

- Coordinates with the Animal Response Team Leader;
- Assesses animal behavior;
- Safely and humanely handles animals;
- Identifies animals for tracing and reunion;
- Counts animal populations;
- Ensures appropriate sanitation for animals;
- Feeds and waters animals;
- Exercises animals;
- Assists with animal health care;
- Assists with animal depopulation;
- Assesses needs of animals;
- Collects specimens from animals;
- Assists with establishing and maintaining medical records;
- Identifies and counts animal premises;
- Investigates cases of animal disease;
- Performs clinical examinations and makes diagnoses of animal diseases;
- Identifies presence of disease and abnormal conditions in animals;
- Recommends risk reduction procedures for animal-to-animal disease transmission;
- Monitors for the emergence and re-emergence of disease;
- Provides healthcare to animals;
- Advises on animal depopulation;
- Performs euthanasia;
- Oversees vaccination of animals;
- Advises on disease control and prevention;
- Monitors and recommends humane care standards of animals.

Table 2 - Veterinarian Requisite Training/Experience

| | |
|-------------------|--|
| Training | <ul style="list-style-type: none">• Doctorate of Veterinary Medicine (active state license)• Emergency Animal Sheltering course http://www.ualbanycph.org/learning/default.cfm• Zoonosis, Preparedness, and Public Health http://www.ualbanycph.org/learning/default.cfm |
| Experience | <ul style="list-style-type: none">• Works or has worked in primary animal health• Works with companion animals, equines, livestock, avian, or non-domesticated species. |

Figure 2 - Animal Emergency Response Incident Command Structure Template



Veterinary Personnel Professional Licensure, DEA Licensure and Professional Liability

Professional licensure is an issue for all responders required to have a professional license to practice in a state. The exceptions to this rule are federal responders deployed through federal response agencies. When properly deployed as federal assets, these responders are deemed to be licensed in the state to which they are responding. Few states have addressed the issue of temporary licensure for non-federal out-of-jurisdiction responders in the event of a disaster. Interstate deployment through the Emergency Management Assistance Compact helps to address licensure issues but state veterinary boards still have discretion in this area and proper notification and approval needs to be received before any deployment begins.

Certain Memorandums of Understanding, such as those between the American Veterinary Medical Association (AVMA) Veterinary Medical Assistance Teams (VMAT) program and state animal health authorities, address these licensing issues as well. No veterinary professional should respond outside their jurisdictional limit without addressing proper licensure first.

Drug Enforcement Administration (DEA) Licensure is site- and state-specific. DEA-controlled substances should only be managed and handled by a DEA-licensed veterinarian within the affected state.

Professional liability coverage must be addressed for all responders; this extends not only to interstate response activities but intrastate and local response as well. Responders must consult with their own liability coverage provider to determine the extent to which they are protected or covered. Some states' Good Samaritan laws provide liability protection but these vary widely in scope and depth; thus, each responder should become familiar with applicable local and state laws concerning this issue.

Appropriately deployed federal assets, through the National Disaster Medical System National Veterinary Response Team (NDMS NVRT) program and the United States Department of Agriculture National Animal Health Emergency Response Corps (USDA NAHERC) programs, are federally provided with liability coverage while deployed. Some states have also legislated liability coverage for responders when deploying with an appropriate state organization such as a recognized Medical Reserve Corp (MRC) unit. It is the responsibility of each responder to ensure they have appropriate liability coverage for their activities.

Considerations for the Veterinary Medical Responder Personal Preparedness Kit and Medical Cache

Personal Preparedness Kit

Responders are usually required to bring a personal preparedness kit or “Go-bag” with them that will last them for at least 72 hours during their initial deployment to an animal disaster response. Each disaster presents a different set of variables to contend with and items brought with a responder should be considered prior to preparation for deployment. An example of a 72 hours “Go-bag” may be found in Appendix D.

Logistics and Cache

When evaluating best practice logistical capabilities and cache supplies for veterinary medical disaster and emergency response groups, many factors must be considered and evaluated. To begin to evaluate what a group’s capabilities and cache should be, one must first evaluate the group itself.

Initial considerations should include:

1. Mission statement/assigned missions or tasks
 - a. First responders
 - b. Shelter operations
 - c. Animal urban search and rescue support
 - d. Veterinary medical support for local government agency (e.g. animal control)
 - e. All species vs. specific species
 - f. Decontamination support
 - g. Foreign animal disease response support
 - h. Public health response support
2. Territory covered
 - a. Local
 - b. State
 - c. Regional
 - d. Tribal
 - e. National
 - f. International
3. Size
 - a. Incident Type Classification (Class I-IV)
 - b. Number of patients
 - c. Number and types of trained and credentialed volunteers and employees

Other considerations that are common among all groups include:

1. Storage and accessibility (including size limitations and access to refrigeration).
2. Base equipment (trailer, mobile clinic, tents, go bags)

3. Sponsoring agency (state or local Veterinary Medical Association, state department of agriculture, humane group, local or state emergency management, and local or state health department).
4. Ability to handle and manage drug cache (especially controlled drugs).
5. Availability/source of supplies (local veterinarians, local suppliers, national distributors).
6. Support by governmental entity/facility (local animal shelter, college of veterinary medicine – teaching hospital).
7. Management (paid, volunteer)
8. Insurance requirements/needs
9. Inventory management (drug rotation, expirations)

Once these factors are evaluated, a group can evaluate the status of their current capabilities and cache and make determinations as to needs and wants. See Appendix E for an example of the Veterinary Medical Assistance Team (VMAT) Veterinary Cache

Disaster Response Best Practice Recommendations

Household Pet Responder Safety

Responder safety is a first priority in any disaster response. The working group has identified the following considerations household pet responders and safety officers should consider during the response effort.

Zoonotic Disease and Public Health Issues

The Veterinary Standard Precautions (VSP) outlined in the *Compendium of Veterinary Standard Precautions for Zoonotic Disease Prevention in Veterinary Personnel* from the National Association of State Public Health Veterinarians, Veterinary Infection Control Committee are routine infection control practices designed to minimize transmission of zoonotic pathogens from animal patients to veterinary personnel in private practice. The *Compendium* was first published in 2008 in response to a growing recognition of the occupational risks inherent in veterinary practice and the need for infection control guidance for veterinarians.

The *Compendium* focuses largely on personal protective equipment and actions. A multifaceted approach to workplace safety that incorporates environmental engineering control measures, appropriate administrative policies, and personal protective actions is recommended.

The current edition of the *Compendium* may be found at the National Association of State Public Health Veterinarians website.¹⁰

Personal Protective Equipment (PPE) for Responders

Selection of the appropriate personal protective equipment (PPE) is a complex process which should consider identification of the hazards (or suspected hazards), the routes of potential hazard to employees (inhalation, skin absorption, ingestion, and eye or skin contact), and the performance of the PPE materials (and seams) in providing a barrier to these hazards. The amount of protection provided by PPE is material-hazard specific. Protective equipment materials will protect well against some hazardous substances and poorly, or not at all, against others. In many instances, protective equipment materials that provide continuous protection from a particular hazardous substance are not available. In these cases, the breakthrough time of the protective material should exceed the scheduled work duration.

Other factors to consider are matching the PPE to the employee's work requirements and task-specific conditions. The tear resistance and seam strength of the PPE materials should be considered in relation to the employee's tasks. The effects of PPE in relation to heat stress and task duration should also be considered. In some cases, multiple layers of PPE may be necessary to provide sufficient protection to the wearer or to protect PPE inner garments, suits, or equipment.

¹⁰ National Association of State Public Health Veterinarians website (www.nasphv.org).

Specific knowledge of the hazards at the site or the animals being transported from a site will aid in appropriate PPE selection. As more information about the hazards and site conditions become available, the safety officer should adjust the level of PPE protection accordingly.

The following guidelines may be used by the safety officer to select the appropriate PPE. Per Occupational Safety and Health Administration (OSHA) Hazardous Waste Operations and Emergency Response (HAZWOPER) (29 CFR 1910.120) standard, four levels of PPE use are recognized (i.e., A, B, C, or D). However, the listing below does not fully address the performance of specific PPE material in relation to specific hazards at the job site, and PPE selection, evaluation and refinement is an ongoing process.

Level D

Level D is primarily a work uniform level, such as the traditional firefighter turn-out gear. This level requires coveralls and safety shoes/boots, with other PPE (such as gloves) based on the situation. Level D should be worn when the atmosphere contains no known hazard and work functions preclude splashes, immersion, or the potential for unexpected inhalation of or significant contact with hazardous chemicals.

Level C

Level C protection should be selected when the type of airborne substance is known, concentration measured, criteria for using air-purifying respirators (APR) met, and skin and eye exposure is unlikely. Periodic monitoring of the air must be performed.

Required elements include:

- Full-face or half-mask, APR (National Institute for Occupational Safety and Health (NIOSH) approved);
- Chemical resistant clothing (one-piece coverall, hooded two-piece chemical splash suit, chemical-resistant hood and apron, disposable chemical-resistant coveralls);
- Gloves, inner and outer, chemical resistant;
- Boots, steel toe and shank, chemical resistant.

Level B

Level B protection should be selected when the highest level of respiratory protection is needed, but a lesser level of skin and eye protection is sufficient. In emergency situations, Level B protection is the minimum level recommended until the hazards have been identified and defined by monitoring, sampling, and other reliable methods of analysis. Required elements include:

- Positive pressure (pressure demand), NIOSH-approved SCBA or positive pressure supplied air respirator with escape SCBA;
- Chemical resistant clothing (overalls and long-sleeved jacket, coveralls, hooded two-piece chemical-resistant splash suit, disposable chemical-resistant

- coveralls);
- Gloves, inner and outer, chemical resistant;
- Boots, outer, chemical resistant, steel toe and shank.

Level A

Level A protection should be worn when the highest level of respiratory, skin, eye and mucous membrane protection is needed. Required elements include:

- Positive pressure (pressure demand), self-contained breathing apparatus (SCBA, NIOSH approved) or positive-pressure supplied air respirator with escape Self-Contained Breathing Apparatus;
- Fully encapsulating chemical protective suit;
- Gloves, inner and outer, chemical resistant;
- Boots, chemical resistant, steel toe and shank (depending on suit boot construction, worn over or under suit boot).

NIOSH has identified a number of potential health and safety hazards associated with caring for displaced animals. These include:

- Bites;
- Scratches;
- Crushing injuries;
- Exposure to zoonotic organisms and bodily fluids;
- Injuries related to sharp, jagged debris;
- Heavy-lifting injuries.

NIOSH guidelines for PPE to be worn when handling animals include:

- Gloves
 - Thick nitrile or polyvinyl chloride gloves offer protection from gasoline, diesel fuels, grease, other oils, and acids;
 - Provide additional protection against bites and scratches, double gloving with an outer heavy fabric glove may be required.
- Protective eyewear
 - Safety glasses do not protect against splash hazards, so tight fitting goggles should be used instead;
 - Full face shields may be worn for major splashing and to protect against claws and flying debris.
- Durable clothing
 - Coveralls or long-sleeved pants and shirts should be worn to protect against animal bites and scratches;
 - Lightweight, waterproof garment can be worn to prevent liquids from soaking through the undergarments.
- Protective footwear
 - Knee-length rubber boots with slip-resistant soles.

- N-95 particulate respirator
 - Protect against spray mists during decontamination;
 - Fit testing is required.

Other factors to consider when selecting protective clothing include the mobility of the user and the susceptibility of the user to heat stress while working.

Each disaster poses its own distinct health and safety risks. Therefore, these recommendations are general guidelines only and should not be expected to anticipate or account for all possible dangers. In addition, because the disaster landscape varies with the region and time of deployment, it is important that the safety officer and command staff closely monitor current conditions at deployment sites so that elements of PPE can be modified as necessary.

A more comprehensive discussion of the types of protection provided by various levels of PPE and recommendations on when to use a particular level can be found on the OSHA website.¹¹

Vaccinations for Household Pet Responders

Household pet responders may be at risk for diseases endemic within the response area and are more at risk to exposure of rabies due to intake of animals with unknown or undocumented rabies prophylaxis. See Appendix F for a list of recommended vaccinations for responders.

¹¹US Department of Labor's Occupational Safety and Health Administration website (<http://www.osha.gov/dts/osta/oshasoft/index.html>).

Triage

By Dr. Wayne Wingfield, MS, DVM, DACVECC, DACVS

In a disaster involving large numbers of animals, triage is conducted with the purpose of doing the greatest good for the largest number of patients. Disaster triage is an ongoing process and animals may be reassessed multiple times as necessary (e.g. in the field to determine transportation to a shelter/medical facility or euthanasia, and when arriving at shelters on transports from the affected area or with owners as they arrive at shelters). Triage entails rapid examination followed by classification of a patient according to the urgency of treatment needs. The triage process requires an organized approach to multiple patients to ensure the most critical animals are identified and normalized first. Thus, triage is based upon two key points:

1. The immediate medical needs of the patient.
2. The available medical resources (facilities, equipment, personnel, and time).

Triage in local disasters requires knowledge of available facilities and capacities immediately adjacent to the disaster as well as knowing this same information for facilities located just outside of the disaster area¹². Critically ill patients may require transport to local veterinary facilities, if available, rather than treatment onsite.

Procedures

A standard intake form is considered best practice. Currently, the National Animal Rescue and Shelter Coalition (NARSC) recommend including EARS (RedRover's Emergency Animal Rescue Services) forms. Other forms may be used or required by the local jurisdiction. Forms may also be requested through NARSC at <http://www.narsc.net>.

When completing an intake form for the shelter it is beneficial to indicate the initial triage point to document the progress of an animal's recovery. If an organization creates their own forms it is advantageous to include the following items:

- Check boxes – Check boxes or yes/no answers minimize time spent on a document and reduces the opportunities for errors;
- The entire physical exam form should be limited to one page in triplicate. One copy is supplied to the shelter, one copy is retained by the veterinarian, and the other copy is given to the owner;
- Provide enough space for a veterinarian to record their professional license number and sign;
- Create a space to indicate the “next step” for the animal.

¹² Wingfield WE et al. *Veterinary Disaster Triage: Making Tough Decisions*.

Ongoing assessment forms utilized by the shelter need to be filled out by veterinary personnel every day on every animal. Also, make sure to provide enough space on these forms to record the professional license number and signature of the veterinarian who examined the patient each day.

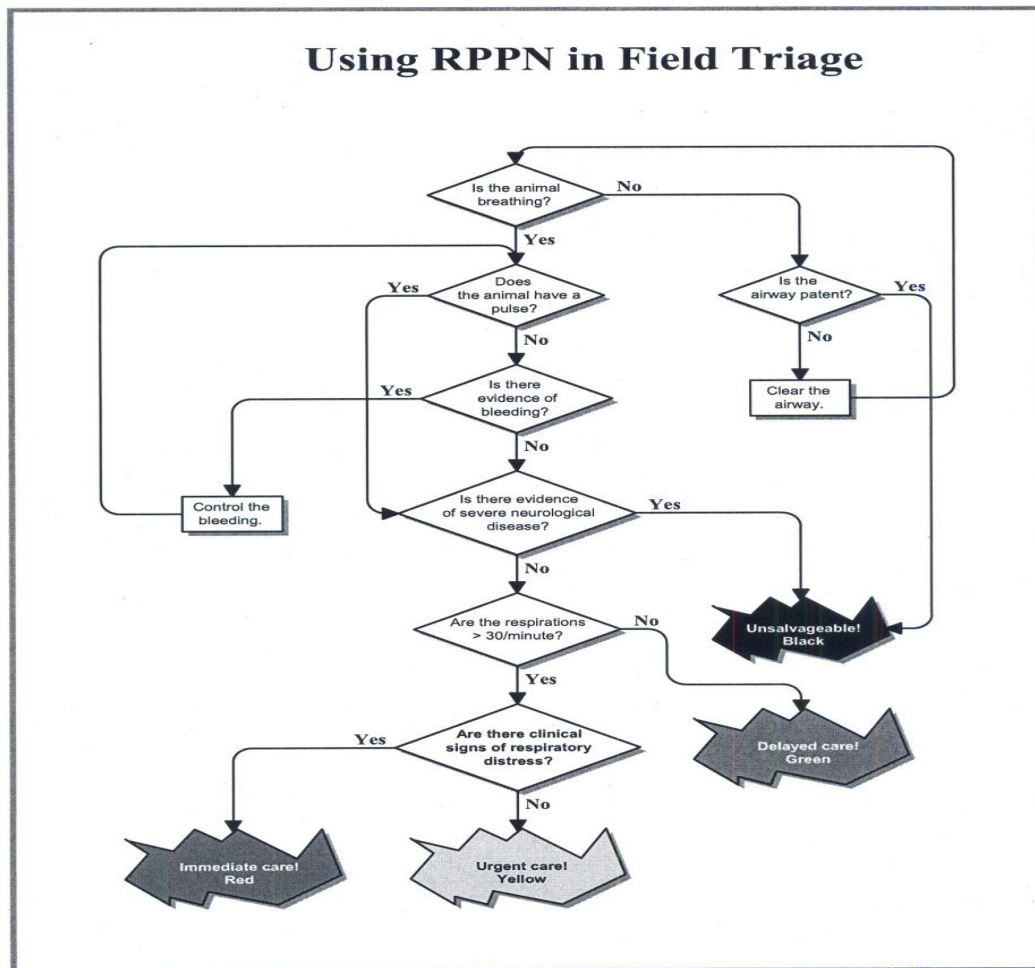
Field Triage

Field triage is performed to sort the most severely injured or sick animals which involves categorizing patients at the disaster site and classify the animals into three categories:

1. "Likely to survive regardless if care is administered or not" (GREEN);
2. "Critical: may survive if lifesaving measures are administered" (RED);
3. "Dead or likely to die" (BLACK).

When faced with large numbers of veterinary patients in a disaster, the initial assessment involves an organized, systematic assessment of several important organ systems. Specifically, the triage officer assesses: Respiration, Pulse rate, Pulse character, and Neurological status. This assessment uses the acronym RPPN (see Figure 3). Respiratory distress, abnormal pulse rates, weak pulse character, and abnormal neurological status all require more immediate assessment and possible emergency treatment. Additionally, abnormalities in these parameters may direct the veterinarian to pursue euthanasia. These decisions are based upon the patient's physiological status, available resources, and personnel. Field triage only sorts patients and does not routinely administer immediate care.

Figure 3- RPPN Field Triage Flowchart



Shelter Intake Triage

Prior to entry into a shelter intake area, each animal is given a brief evaluation by veterinary personnel to determine the health status of an animal and assess for any serious conditions or highly contagious diseases. Animals should have the following assessments recorded:

- If an animal appears healthy, it will then be allowed to proceed through the intake area to be processed;
- If a minor injury is present and it is assessed the animal only requires a simple treatment, the animal is placed in a tent with appropriate medication or treatment;
- If greater care is required, the animal is assigned to a hospital tent;
- If the incoming animal appears to carry an infectious disease (e.g. nasal discharge, ringworm) the animal is assigned to an isolation ward or tent;
- If the incoming animal is in need of intensive veterinary care, the animal is referred to an off-site veterinary hospital, if available.

Animals are categorized further as they reach their intended locations. An example of detailed shelter assignments is outlined in Table 3. Upon arrival of patients, it is important for staff to remain calm, work quickly, and minimize patient stress. Rapid and efficient triage depends upon a well-developed team approach and a pre-arranged categorization of case priority

Table 4 provides a recommendation for such categorization.

Table 3- Shelter Intake Priority System

| Group | Color | Type of Injuries |
|-------------------------|--------------|--|
| Priority 1 / Immediate | Red | Critical: may survive if simple lifesaving measures are applied |
| Priority 2 / Delayed | Yellow | Likely to survive if simple care is given within hours |
| Priority 3 / Non-urgent | Green | Minor injuries; care may be delayed while other patients receive treatment |
| All Groups | Blue* | Patients have been decontaminated |
| None (Dead or Dying) | Black | Dead or severely injured and not expected to survive |

*Blue is not a universally approved triage category but is listed as one means to identify patients that have been decontaminated following the disaster. This gives caretakers more confidence they will not be exposed nor will their facility become contaminated.

Additionally, a behavioral assessment should be completed at intake. A veterinarian or behaviorist (if available) should assess an animal displaying aggressive behavior. When possible, local animal control should be consulted for handling aggressive animals. Aggressive animals are a serious sheltering issue and should be isolated from rest of the population as they pose a threat to other animals, caretakers, and themselves.

Animals not classified as Household Pet

A disaster may cause catastrophic casualty management of species not covered by the PETS Act (e.g., cattle, horses, poultry, reptiles). With large numbers of animals affected, severely limited medical resources, and poorly trained local response personnel these catastrophic casualties remain at the scene for a protracted period of time as they may not be covered under emergency management plans and must be frequently reassessed. Triage is decentralized and often occurs at multiple sites in the disaster zone. In order to address these considerations, the Secondary Assessment of Victim Endpoint (SAVE) system of triage is designed to identify animals most likely to benefit from the care available under severe conditions. Most likely the SAVE system will be used for large mass casualty events that may occur in feedlots, poultry houses, or swine rearing facilities.

Triage under the SAVE system is immediate and dynamic. The methodology divides animals into three categories:

1. Those that will die regardless of how much care they receive.
2. Those that will survive whether or not they receive care.
3. Those that will benefit significantly from intense intervention.

Only animals expected to improve should receive additional care above basic husbandry. In this way, resources are more focused. The categorization of an animal outside the common household pet species is based largely upon the experience of the triage team. Little to no information is available regarding the probability of survival for veterinary patients. Post-response, the team can examine those decisions in hopes of improving outcome at the next disaster.

General Intake Procedures in a Disaster Response

Animal intake is often the most important contact point for animals in the shelter system. The veterinarian's role in the animal intake procedure is essential for infectious disease (prevention and control). Veterinarians should be available throughout the entire intake process.

At intake, the animal is:

- 1) Identified through physical description, photograph, and microchip scanning;
- 2) Provided a physical examination to determine health status and triaged for treatment of medical conditions;
- 3) Provided preventive treatments to reduce risk for infectious diseases (vaccines, parasite treatment);
- 4) Assessed for temperament and behavior as necessary to prevent animal bites as part of public health and safety;
- 5) Document and report known animal bites.

Each step is essential and ensures animals have the best opportunity for a positive outcome. Animals must be processed as soon as possible after arrival to the facility, preferably within one hour, to quickly identify animals with urgent medical needs as well as to protect the shelter population from infectious disease outbreaks.

Specific information on sheltering as well as animal search and rescue are found in the documents produced by the Best Practices Working Group on Sheltering and Animal Search and Rescue Report.

Field Diagnostics

Diagnostic equipment and capabilities

Given the variety of animal-disaster combinations that result in a need for disaster veterinary care, the absence of medical records in a typical disaster and the limited patient-veterinarian-client relationship, the requisite field diagnostics may vary greatly. Below is a list of equipment that might be used in a shelter during an emergency to aid in triage and treatment of incoming animals.

To adequately address these needs, the following are considered basic diagnostic equipment for the veterinary health care team:

Basic Level

- Otoscope and Ophthalmoscope
- Stethoscope
- Thermometer

Mid-Level (includes everything in basic level)

- Microscope
- Parvovirus Test
- Refractometer
- Felv/FIV Test
- Heartworm Test
- Glucometer
- Urinalysis Dipsticks

Advanced Level (includes everything in basic and mid-level)

- Chemistry Analyzer
- Radiology
- Centrifuge
- Microcrit Centrifuge
- Giardia snap test

Note: Follow appropriate storage and handling of equipment and supplies (to include refrigeration) as recommended by manufacturer's guidelines.

Animal Identification

Dogs and Cats

Detection of implanted microchips is an essential component of animal identification and the reunification of pets with their owners. Scanning with a 'global' or 'universal' microchip reader enables the shelter to detect any frequency of microchip identification (125, 128, and 134.2 kHz). Global scanners currently available include, but are not limited, to the HomeAgain® Universal WorldScan™ Reader and Bayer's iMax Black Label Reader (also known as ResQ® scanner). Global scanners (and extra batteries!) should be available at all impound stations as well as written policies and procedures for scanning at multiple critical contact points. Scanning at multiple points during an animal's shelter stay provides the greatest potential for microchip detection. A recent study found that nearly 13% of microchips detected were found after the animal scanned negative at intake¹³.

To maximize the opportunity for detection of microchips, require scanning at each of the following points:

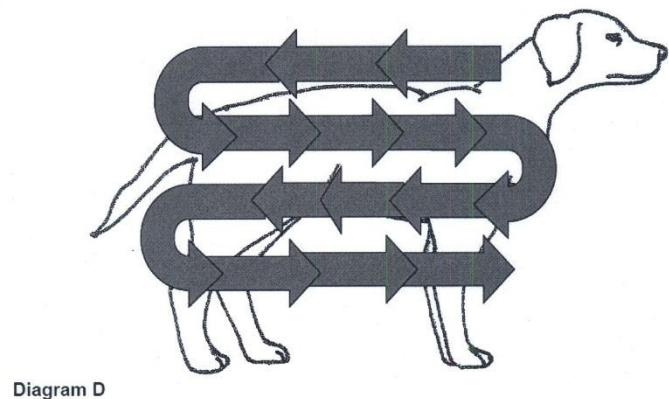
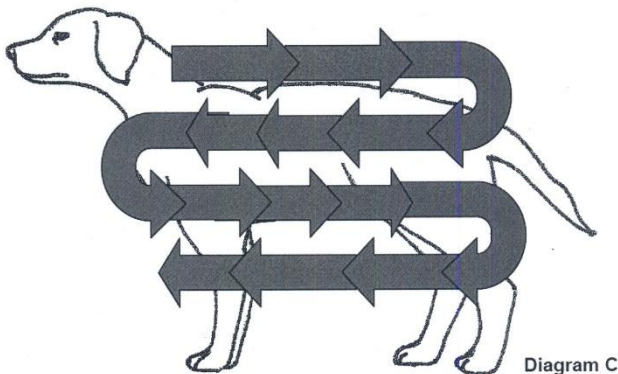
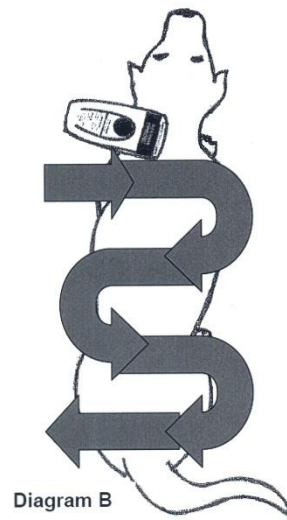
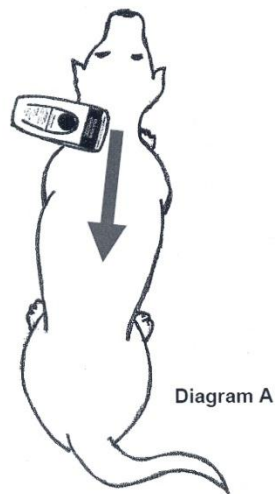
- In the field for immediate reunification with owner
- As part of the intake examination upon entry to the shelter
- Prior to euthanasia

It is essential to use consistent speed, scanner orientation, scanning pattern, and scanning distance when using a microchip scanner and to scan the ENTIRE animal. Rocking the scanner slightly side to side will maximize the potential for optimal chip orientation and successful detection.

1. Scanner Orientation – the scanner should all be held parallel to the animal. During scanning, rock the scanner slightly from side-to-side. This will maximize the potential for optimal chip orientation and successful detection.
2. Scanning Distance – the scanner should be held in contact with the animal during the scanning process, in other words it should be very close to the animal either lightly touching the skin or held just over the skin less than an inch away from contacting the patient.
3. Scanner Speed – you should not scan any faster than ½ foot per second because the universal scanners must cycle through various modes to read all possible chip frequencies. GOING SLOW IS THE KEY!! This is extremely important.
4. Areas of Animal to Scan – the standard recommended implant site is midway between the shoulder blades over the back. Scanning should begin over this area (see diagram A). If a microchip is not detected in this region, scan down the back, on the sides, neck and shoulders, down to the elbows and back down the hindquarters.
5. Scanning Pattern – The scanner should be moved over the scanning areas in an "S" shaped pattern in a transverse (from side to side) direction over the scanning

¹³ Internal Auditor Follow-up Report Summary of Audit Corrective Actions, Brevard County, September 14, 2011.

area (see diagram B). If no microchip is detected, the scanner head should be rotated 90 degrees and then the scan should be repeated in an “S” shaped pattern in a longitudinal direction ON BOTH SIDES (see diagrams C & D). As the scanner moved in this “S” shaped pattern over the various contours of the animal’s body, it will maximize the ability of the scanner to detect the microchip, regardless of the orientation of the microchip.



Animal identification allows for the tracking of the arrival of every animal through intake to discharge. Once an animal has been identified, using a scanner or other means, it is important for the animal’s individual identification to remain on the animal at all times, similar to a hospital neckband. A cage card is not acceptable for animal identification as an animal may become displaced from the original cage. Furthermore, an animal should

be scanned at every critical junction from intake to release as some chips may migrate from the original location. It is recommended that each animal be scanned twice before euthanasia is performed. Finally, it is imperative to ensure the information from the shelter is correct on each medical form. If an animal is not micro-chipped upon entry to the facility, an authority should be consulted as to a “micro-chipping plan” upon the animal’s release to the owner or to another shelter.

Additional Animal Identification Resources:

- Lord LK, et al. *Sensitivity of commercial scanners to microchips of various frequencies implanted in dogs and cats. J Am Vet Med Assoc* 2008; 233:1729-1735.
- Lord LK, et al. *Characterization of animals entering animal shelters with a microchip. J Am Vet Med Assoc* 2009; 235:160-167.
- *Scanning for a Microchip*
http://www.sheltermedicine.com/documents/micro_scan_proc.doc

Physical Examination of Canines and Felines

Shelter health care for canines and felines should begin with a thorough physical examination as soon as possible after admission to identify those requiring immediate further medical care. This examination is more thorough than a triage examination which place pets in priority categories. The exam should identify animals with obvious illness and those requiring immediate isolation to prevent spread of infectious disease. Intake exams are critical to help limit or prevent a widespread disease outbreak, to group animals appropriately in the shelter, and to initiate effective population management. In addition, the intake exam can confirm the accuracy of the animal's description by verifying neuter status and age, conducting a preliminary assessment of temperament, and initiating an accurate medical shelter record.

It is important to note that physical examination of animals occurs at many areas during intake and sheltering. Reassessment occurs throughout the process and may occur prior to all necessary paperwork being completed.

Shelter physical examination procedures should:

- **Implement and enforce biosecurity precautions to reduce the risk of fomite transmission of infectious diseases.**
 - Shelter triage prior to animal intake area to assess any animals with serious conditions or highly contagious disease;
 - Staff members should wear disposable exam gloves to handle each animal and change gloves between animals;
 - Staff members should strive to minimize animal contact with clothing. Any staff member who unexpectedly handles a sick or potentially contagious animal should change clothes, thoroughly sanitize hands and arms, and preferably handle a different species for the rest of the day;
 - Clean and disinfect common use areas and intake area supplies between animals. Such supplies might include scales, exam tables, and animal handling equipment.
- **Develop a detailed written protocol for intake examination.** Examination of every animal on intake for injuries, disease, or other conditions that may require immediate intervention is one of the essential responsibilities of the intake team.
 - The protocol should contain step-by-step instructions for physical examination and a clear plan of action for reporting medical problems at intake and tracking responses in the medical record;
 - Record examination findings (both normal and abnormal) and any treatments in the medical record for each animal (see Appendix G).
- **Weigh all incoming animals and record in the medical record.**
 - Body weight is a good indicator for tracking health and welfare concerns during an animal's stay at the shelter, especially for cats. Loss of body

- weight after intake indicates animals may not be eating either due to unmitigated stress or illness.
- Acquiring an accurate intake weight enables appropriate dosing of parasite treatments and treatments for medical conditions.
 - If a scale is not available weight should be estimated by a qualified individual with suitable experience and documented as “estimated”.
 - **Assess the body condition score on all animals at intake** (examples include the Purina 1-9 scale or Hills 1-5 scale).
 - Post the canine and feline body condition scoring charts at all examination and impound stations;
 - Train staff to evaluate body condition scores;
 - See Appendix H and I for the Purina Cat and Dog Body Condition Scoring Systems.
 - **Use dentition along with other physical findings to estimate animal age.**
 - Weight and body size are not as accurate as dentition;
 - Adults are defined as ≥ 6 months based on eruption of permanent canine teeth;
 - Juveniles are defined as puppies and kittens < 6 months based on presence of deciduous canine teeth;
 - See Appendix J for the HSUS Aging Dentition Guidelines.

Additional Resources for Physical Examination:

- *Association of Shelter Veterinarians 2010 Guidelines for Standards of Care in Shelter Animals.* www.sheltervet.org
- *Compendium of Veterinary Standard Precautions for Zoonotic Disease Prevention in Veterinary Personnel.* National Association of State Public Health Veterinarians. www.nasphv.org
- *Compendium of Animal Rabies Prevention and Control, 2011.* National Association of State Public Health Veterinarians. www.nasphv.org
- *Compendium of Measures to Prevent Diseases Associated with Animals in Public Settings, 2011.* National Association of State Public Health Veterinarians. www.nasphv.org
- Griffin B. Chapter 2. Wellness. In, *Infectious Disease Management in Animal Shelters*, ed. by Hurley and Miller. Wiley-Blackwell Publishing, 2009.
- *Performing a Physical Exam on a Shelter Animal.* UC Davis Koret Shelter Medicine Program. Available online at: www.sheltermedicine.com/documents/performing_physical_exam.pdf
- Spindel M, Makolinski K. *Alphabetical Resource of Shelter Medicine Topics.* ASPCA. http://www2.aspc.org/site/DocServer/ASPCA_Shelte_Medicine_Resources_01-2009.pdf?docID=14781

Household Pet Vaccination

Vaccine Overview

Vaccines are one of the most important and potentially lifesaving tools shelters have available. In general, vaccinations minimize the spread of infectious diseases in a high-density, high-risk population such as in a shelter. Modified-live vaccines (MLV) are recommended instead of inactivated vaccines because of potential for quicker onset of immunity and stimulation of humoral and cell mediated immunity responses¹⁴¹⁵. Vaccinations should be administered as soon as possible upon intake into an emergency shelter. Delaying vaccination or not vaccinating certain populations can compromise the effectiveness of a disease control program and could lead to sustained outbreaks of infectious disease. Early vaccination is essential for optimizing the opportunity to prevent or reduce the severity of shelter-acquired infections. In order to protect public health and the general animal population in a disaster shelter, vaccinations should be provided unless the owner provides unambiguous documentation of current vaccination status at the time of admission to a shelter or it is determined that vaccination of the animal is contraindicated due to a medical condition. If there is proof of current vaccination, there is no reason to revaccinate with canine core vaccines, but feline core vaccines (specifically Feline calicivirus and Feline herpesvirus), may be of value in boosting immunity¹⁶. Unvaccinated animals should not be placed in the general population and should be handled with appropriate biosecurity precautions.

Determining Household Pet Vaccination Recommendations

The work group reviewed the following resources in researching vaccination recommendations:

- *2011 American Animal Hospital Association (AAHA) Canine Vaccination Guidelines;*
- *2010 World Small Animal Veterinary Association (WSAVA) Guidelines for Vaccination of Dogs and Cats;*
- *The 2006 American Association of Feline Practitioners (AAFP) Feline Vaccine Advisory Panel Report;*
- *Ferrets, Rabbits, and Rodents Clinical Medicine and Surgery.*

The scientific studies and referred journal publications are not available to support all of the vaccination recommendations included within the AAHA and WASVA reports. Some recommendations are based on unpublished studies, current knowledge of immunology, and the experience of experts in the field.¹⁷ Furthermore, regarding disaster shelter environments, experience of first responders were taken into consideration in developing this work group's recommendations.

AAHA and WSAVA developed core vaccination recommendations for animals in shelter environments. Additionally, these organizations have developed a list of core and non-core

¹⁴ 2010 World Small Animal Veterinary Association (WSAVA) Guidelines for Vaccination of Dogs and Cats.

¹⁵ Western Veterinary Conference 2011 Proceedings, Small Animal Session 169, The View on Vaccines.

¹⁶ 2010 World Small Animal Veterinary Association (WSAVA) Guidelines for Vaccination of Dogs and Cats.

¹⁷ 2011 American Animal Hospital Association (AAHA) Canine Vaccination Guidelines.

vaccines for use in household pets under normal and shelter conditions. Core vaccines are defined as vaccines ALL dogs and cats, regardless of circumstances, should receive.¹⁸ Under shelter conditions, these organizations have identified the following as core vaccines:

Table 4 - AAHA and WSAVA Shelter Core Vaccines

| Canine Shelter Core Vaccines | Feline Shelter Core Vaccines |
|--|-------------------------------------|
| Canine Distemper Virus (CDV) | Feline Panleukopenia Virus (FPV) |
| Canine Adenovirus - 2(CAV-2) | Feline Calicivirus (FCV) |
| Canine Parvovirus type 2 (CPV-2) | Feline Herpesvirus-1 (FHV-1) |
| Canine Parainfluenza Virus (CPiV) | Rabies Virus (RV) |
| <i>Bordetella bronchiseptica</i> (Bb) Intranasal | |
| Rabies Virus (RV) | |

Non-core vaccines are defined as those that are required by only those animals whose geographical location, local environment or lifestyle places them at risk of contracting specific infections.¹⁹ AAHP, AAHA, and WSAVA have identified the following as non-core vaccines under normal conditions:

Table 5 - AAHA and WSAVA Non-Core Vaccines

| Canine Shelter Non-Core Vaccines | Feline Shelter Non-Core Vaccines |
|---|--|
| Canine Influenza Virus H3N8 (CIV) | WSAVA does not recommend the use of other feline vaccines in shelter situations. ²⁰ |

The WSAVA vaccination guidelines group does not recommend the use of other feline vaccines in shelter situations.

AAHA has developed a category of vaccines not recommended in shelter environments. AAHA has determined these diseases do not represent a significant threat to the population of dogs residing in shelters, would not provide protection because there is inadequate time for immunity to develop, or that have limited efficacy against clinical disease. Among the various canine vaccines licensed for use within the US, the following vaccines are not recommended for routine use in shelter-housed dogs: leptospirosis; canine coronavirus; canine *Borrelia burgdorferi* (Lyme disease); *Crotalus atrox* (rattlesnake) vaccine; parenterally (subcutaneously) administered Bb (see Table 6 for the exception); and parenterally administered CPiV. Because most of these vaccines are killed (inactivated) and therefore require two doses at least two (2) weeks apart, use of these vaccines is viewed as impractical and unnecessary in most shelter-housed dogs.

¹⁸ 2010 World Small Animal Veterinary Association (WSAVA) Guidelines for Vaccination of Dogs and Cats.

¹⁹ . *Ibid.*

²⁰ . *Ibid.*

After reviewing this information, this working group has compiled the following statements and tables as its recommendations on disaster household pet shelter vaccination strategies:

- See Tables 6-9 for recommended disaster shelter core vaccination strategies of household pets.
- Variable disaster shelter circumstances make it impractical to provide a universally applicable recommendation list. The tables for recommended disaster shelter core vaccinations strategies may be modified by region to include the addition of non-core vaccines under regular and shelter circumstances, and include any modifications based on local and state regulations. Consultation and review of vaccination protocols with local and state animal health officials is recommended.
- With the large number of animals that may arrive at a disaster shelter from a wide geographic region, wide range of household pet lifestyle variations (indoor vs. outdoor, etc.), with mostly undocumented vaccine histories, the unknown duration animals may be residing in a shelter, and the number of people working in the shelter around the animals, it is recommended that all animals (if at the appropriate age) receive a rabies vaccination on intake.
- It is recommended that all household pets entering a disaster shelter for unknown or long-term sheltering be inoculated with all core vaccines, including rabies vaccine, at the time of admission to the facility regardless of source (stray vs. surrendered), temperament, physical status, legal status, or final outcome unless the owner provides unambiguous documentation of current vaccination status at the time of admission to a shelter (in this population, there is no reason to revaccinate with canine core vaccines, but feline core vaccines (specifically Feline calicivirus and Feline herpesvirus), may be of value in boosting immunity²¹), or it is determined that vaccination of the animal is contraindicated due to a medical condition. Unvaccinated animals should not be placed in the general population and should be handled with appropriate biosecurity precautions. This includes fractious animals, feral cats, pregnant animals, and injured or mildly ill animals. In general, if an animal cannot be safely vaccinated because of illness or injury, then it cannot safely remain in a shelter.²²
- Because it can be difficult or impossible to determine whether young dogs (four (4) months of age) have received any vaccines at all, implementation of an initial series (CDV, CPV-2, CAV-2 [IM, SQ], Bb, and CPiV [IN]), beginning as early as four (4) weeks of age (as early as 3–4 weeks of age for IN administered vaccines), may be indicated. Parenterally administered core vaccines should not be administered before six (6) weeks of age. When it is the decision of the facility to initiate the series (i.e., “puppy shots”) to an individual dog, then the recommended vaccines should be administered at two (2) weeks (rather than 3 or 4 weeks) intervals until the dog reaches ≥ 16 weeks of age.²³
- The CIV vaccine may be recommended (noncore) in selected shelters located within endemic communities or in shelters that transport dogs to or from communities

²¹ 2010 World Small Animal Veterinary Association (WSAVA) Guidelines for Vaccination of Dogs and Cats.

²² 2011 American Animal Hospital Association (AAHA) Canine Vaccination Guidelines.

²³ 2011 American Animal Hospital Association (AAHA) Canine Vaccination Guidelines.

considered to be endemic for canine influenza. This is a killed vaccine that requires two doses be given at least two (2) weeks apart. Immunity is expected one (1) week after the second dose. Therefore, even in shelters located within endemic communities, the benefit of this vaccine will be limited if exposure cannot be prevented before onset of protection or in dogs unlikely to stay long enough to receive the full series of vaccines.

- Disaster shelter personnel may be faced with the dilemma of whether to vaccinate a pregnant dog upon admission to a facility. Historically, vaccination during pregnancy has not been recommended in small animal medicine. This is due in part to the paucity of data concerning vaccine safety and efficacy during gestation and the expectation that, in non-immune pregnant bitches, MLV vaccine can cause fetal damage or death. When the immunity of the dog is unknown, however, the risk of maternal, fetal, and neonatal infection with field strain virus must be weighed against the risk of vaccination. If non-immune pregnant dogs are likely to be exposed to field strain infection with pathogens such as parvovirus or distemper, serious illness or death of both bitch and fetuses may result. Unless facilities are available to completely isolate them from other dogs, pregnant bitches should either be vaccinated or not remain in the shelter.²⁴
- As with pregnant dogs, veterinary medicine has advised against vaccination during illness, due to concerns about suboptimal protection or vaccine-induced illness. The decision to administer or delay vaccination because of a current illness depends on the severity of disease and its etiology. The shelter environment does not usually permit the luxury of isolating dogs and delaying their vaccination until concurrent illness is resolved. Therefore, vaccination is advised upon admission for dogs with minor illness (e.g., otitis, dermatitis, upper respiratory tract infection with or without fever) or injuries. Vaccination of dogs with severe signs of disease ideally should be delayed whenever feasible. However, unvaccinated shelter dogs may develop more severe disease if left unvaccinated, and thus would be at greater risk of dying. In the high-risk shelter environment, vaccination of sick dogs with core vaccines should be the rule with very few exceptions.²⁵
- See Appendix K for a WSAVA developed frequently asked questions (FAQ) answer sheet regarding vaccine questions and answers on cats and dogs.

²⁴ 2011 American Animal Hospital Association (AAHA) Canine Vaccination Guidelines.

²⁵ *Ibid.*

Canine Vaccine Recommendations

Table 6 – Recommended Canine Core Vaccines and Strategies for Disaster Shelters²⁶

| Vaccine | Initial Vaccination | Revaccination (if indicated) | Comments |
|---|--|---|---|
| <p>CDV + CAV-2 + CPV-2 (Note: Use of a combination CDV vaccine + CAV-2 +CPV-2 vaccine with or without MLV CPiV is recommended. Killed (inactivated) virus vaccines are not recommended. Administer subcutaneous (SQ) or intramuscular (IM).</p> | <p>Administer a single dose immediately before or at the time of admission to all dogs unless there are veterinary records showing the dog has been vaccinated at 18-20 weeks of age or older and tested positive for antibody to CDV and CPV-2, it would not be necessary to vaccinate. Minimum age: It is recommended that vaccine not be administered to shelter dogs <4 weeks of age.</p> | <p>Puppies (≤ 18 weeks of age): Revaccination every 2 weeks is recommended until 18-20 weeks of age.</p> <p>Dogs (≥ 18-20 weeks of age): Revaccinate at 1 year of age then revaccinate at 3 or more year intervals as for pet animals as long as the dog remains in the facility.</p> | <ul style="list-style-type: none"> When feasible, puppies should be housed separately from adult dogs, regardless of their vaccination status. All MLV-CPV-2 vaccines available today are expected to provide immunity from disease caused by any field variant recognized today (CPV-2a, -2b, and -2c). All current CDV vaccines are expected to provide immunity from disease caused by and of the current variants of the CDV viruses. Maternally derived antibody (MDA), if present, can interfere with immunization up to 16-18 weeks of age. When distemper risk is high, inoculation with the recombinant CDV (rCDV) and measles/distemper vaccines have been shown to protect puppies with MDA two (2) weeks earlier than the MLV CDV vaccines. The MLV or rCDV vaccine should be used when dogs are 16-18 weeks or older, as both are highly effective in the absence of MDA. Because it is often difficult to know the exact age of puppies and because MDA are often higher in shelter puppies, they may still be sufficient to block immunization at 14-16 weeks in a small percentage of puppies. Therefore, when feasible, shelter puppies should receive a final vaccine when estimated to be 18-20 weeks of age. Once the vaccine has been reconstituted and kept at room temperature, the dose should be administered within one (1) hour to avoid inactivation of the vaccine virus, especially the MLV CDV vaccine. |
| <p>Intranasal Bb + CPiV. Use of a combination (bivalent) INI MLV (avirulent) Bb + MLV CPiV, vaccine is recommended, with or without CAV-2. Administer IN only. Do not administer SQ or IM.</p> | <p>Administer a single dose immediately before or at the time of admission. Vaccine can be administered as early as 3-4 weeks of age (see manufacturer's administration recommendations). Do not administer SQ or IM.</p> | <p>Dogs ≤ 6 weeks of age: For best results, an additional dose is recommended after 6 weeks of age at a minimum vaccination interval of 2 weeks.</p> <p>Dogs >6 weeks of age: Administer a single intranasal dose every 6-12 months as indicated. Do not administer SQ or IM.</p> | <ul style="list-style-type: none"> Administration of MLV (avirulent) IN Bb by the SQ or IM route can lead to severe reactions, including death. Onset of protective immunity after initial IN vaccination occurs within 72 hours; vaccines can reduce the severity of the disease but will not entirely prevent canine respiratory disease complex. Use of a trivalent IN vaccine that also contains a MLV CAV-2 should be considered in shelter-housed dogs when the 2-way IN fails to provide acceptable protection. |

²⁶ Modified from the 2011 American Animal Hospital Association (AAHA) Canine Vaccination Guidelines.

Canine Vaccine Recommendations

Table 6- Recommended Canine Core Vaccines and Strategies for Disaster Shelters (continued)

| Vaccine | Initial Vaccination | Revaccination (if indicated) | Comments |
|---|--|---|---|
| Parenteral Bb Administer SQ. This vaccine is not effective if administered by the IN route. | Administer the first dose at the time of admission. Administer a second dose two (2) weeks later if still at the facility (see comments). | Regardless of the dog's age, two (2) doses, two (2) weeks apart are required to induce immunity unless previously vaccinated within the last 12 months. Dogs that have previously received a two (2) dose initial vaccination series or a booster vaccination within the past year require only a single dose at the time of admission. | <ul style="list-style-type: none"> Parenteral Bb vaccine is recommended only as an alternative when it is not possible or not feasible to administer an INI vaccine (previous). Note: In previously unvaccinated dogs, a single dose of parenterally administered vaccine will not immunize. Immunity is expected 7-10 days after administration of the second dose. The parenteral Bb vaccine does not include protection against parainfluenza virus. |
| RV 1 year. Use of a killed (inactivated) monovalent, single dose vaccine is recommended. Administer SQ or IM. | Administer one (1) dose at the time of intake into the facility. Dogs may be vaccinated as early as 12-16 weeks of age depending on local regulations. | Revaccinate one (1) year after initial vaccination and then at three (3) year intervals with a 3 year rabies vaccine as for pet animals. | <ul style="list-style-type: none"> Unless valid (signed) documentation of prior rabies vaccine administration is available, administration of a rabies vaccine is indicated for all dogs entering a facility regardless of age. Revaccination one (1) year later is required by most jurisdictions. If local, state, or provincial law does not permit issuance of rabies certificate for vaccines given at the shelter, vaccination can be repeated by the owner's veterinarian 2-4 weeks after leaving the shelter. Single dose vials are preferred to reduce the risk of contamination and ensure proper mixing and dosing of antigen and adjuvant. |

Table 7 - Recommended Canine Non-Core Vaccines and Strategies for Disaster Shelters²⁷

| Vaccine | Initial Vaccination | Revaccination (if indicated) | Comments |
|---|--|--|---|
| CIV. A killed or two (2) dose vaccine. Administer SQ or IM. | Administer two (2) doses, two (2) weeks apart, with the first dose given before or immediately upon intake. Vaccine can be administered as | Revaccination with the second dose should occur two (2) weeks after the first. For those dogs in a long stay shelter, annual revaccination | <ul style="list-style-type: none"> Do not vaccinate a dog unless it is possible to give the initial two (2) doses, two (2) weeks apart, as the first dose has not been shown to provide any benefit. This vaccination should be considered for shelters in endemic communities or those that transport dogs to or from these locations. |

²⁷ Modified from the 2011 American Animal Hospital Association (AAHA) Canine Vaccination Guidelines.

Canine Vaccine Recommendations

| | | | |
|--|---|-----------------|--|
| | early as six (6) weeks of age. Two (2) doses must be given to provide immunity. | is recommended. | |
|--|---|-----------------|--|

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Feline and Ferret Vaccine Recommendations

Table 8 - Recommended Feline Core Vaccines and Strategies for Disaster Shelters²⁸

| Vaccine | Kittens (\leq 16 weeks) | Adult and Adolescent ($>$ 16 weeks) | Comments |
|---|--|--|--|
| Panleukopenia Virus (FPV) Feline Herpesvirus-1 (FHV-1) Feline calicivirus (FCV) | Administer a single dose prior to or at the time of admission as early as 4-6 weeks of age; then every 2-4 weeks until 16 weeks of age if still in the facility. The earlier recommended age (4 weeks) and short end of the interval (2 weeks) should be used in very high risk environments or during outbreaks. | Administer a single dose at the time of admission; repeat in 2-4 weeks if the animal remains in the shelter. | <ul style="list-style-type: none"> • MLV preparations are preferable. • Use of intranasal FPV vaccines is generally not recommended in the shelter environment. • Use of intranasal FCV/FHV-1 MLV vaccines may be preferable when rapid onset (48 hours) of immunity is important... • Post-vaccinal sneezing, more commonly seen following administration of intranasal FCV/FHV-1 vaccine, may be impossible to distinguish from infection. |
| Rabies | A single dose should be administered at the time the animal is determined to be of 12 weeks age. | A single dose should be administered at the time of intake into the facility. | |

Table 9 - Recommended Ferret Core Vaccines and Strategies for Disaster Shelters²⁹

| Vaccine | Comments |
|------------------------|--|
| Canine Distemper Virus | Vaccinate young ferrets for distemper at eight (8) weeks of age, and then give two (2) additional boosters at three (3)-week intervals for a total of three (3) vaccinations. Give booster vaccines annually. Currently, one (1) vaccine is approved for use by the US Department of Agriculture for use in ferrets: Purevax. |
| Rabies Virus | Imrab 3 or Imrab 3 TF are the only US approved rabies vaccines. Current recommendations are to vaccinate healthy ferrets at three (3) months of age at a dose of one (1) mL administered subcutaneously. Give booster vaccinations annually. |

²⁸ Modified from the 2010 World Small Animal Veterinary Association (WSAVA) Guidelines for Vaccination of Dogs and Cats.

²⁹ Taken from *Ferrets, Rabbits, and Rodents Clinical Medicine and Surgery*.

Household Pet Vaccination Records

The following data for vaccination should be recorded in the animal's medical record:

- Date;
- Vaccine type and brand;
- Vaccine serial/lot number and expiration date;
- Vaccination site and route;
- Dates for repeat vaccination of animals;
- Rabies certificate (See Appendix L for a Generic Rabies Certificate. A PDF version of this form is available from the National Association of State Public Health Veterinarians at <http://www.nasphv.org/Documents/RabiesVacCert.pdf>) and a rabies tag (if available);
- Identity of staff responsible for vaccination;
- Record in medical record any adverse reaction to the vaccination(s) administered along with treatment for the reaction, and complete and file an Adverse Event Report if a reaction occurred (see Appendix M for the US Adverse Event Report).

Additional Vaccination Guideline Resources:

- Welborn, LV, DeVries JG, Ford R, Franklin RT, Hurley KF, McClure KD, Paul MA, Schultz, RD. *2011 AAHA Canine Vaccination Guidelines*. www.JAAHA.org.
- Richards JR, Elston TH, Ford RB, Gaskell RM, Hartmann K, Hurley KF, Lappin MR, Levy JK, Rodan I, Scherk M, Schultz RD, Sparkes AH. *The 2006 American Association of Feline Practitioners Feline Vaccine Advisory Panel Report*. *Journal of the American Veterinary Medical Association*; 2006; 229:1405-41.
- Day MJ, Horzinek MC, Schultz RD. *WSAVA guidelines for vaccination of dogs and cats*. *Journal of Small Animal Practice*; 2010, 51: 338-56.
- Griffin B. Chapter 2. Wellness. *Infectious Disease Management in Animal Shelters*, ed. by Hurley and Miller. Wiley-Blackwell Publishing, 2009.
- *Vaccination Information Sheet and monitoring for adverse reactions*. UC Davis Koret Shelter Medicine Program. Available online at: http://www.sheltermedicine.com/portal/is_vaccination.shtml#reactions
- Spindel M, Makolinski K. *ASPCA guide to shelter vaccination for your use and adaptation*. Available online at: http://www2.asPCA.org/site/DocServer/ASPCA_Shelter_Medicine_Resources_01-2009.pdf?docID=14781
- National Association of State Public Health Veterinarians, Inc. *Compendium of Animal Rabies Prevention and Control, 2011*.
- Quesenberry KE, Carpenter, JW. *Ferrets, Rabbits and Rodents Clinical Medicine and Surgery 3rd edition*. Elsevier, 2011. Pp. 15-6.

Nutritional Management

After appropriate nutritional assessment has been completed during the physical examination, appropriate nutritional management for each animal is made. The following factors should be utilized to devise appropriate nutritional management:³⁰

Animal Factors

1. Evaluate the animal's condition with respect to the current food intake the owner gave in the intake history.
2. Estimate current energy needs. Resting energy requirements (RER) may be estimated using any of a variety of published formulas in the veterinary literature. Food label recommendations or a formula may be used as a starting point for energy allowance since energy requirements can vary by 50% in either direction for cats, and by 30% in either direction for dogs (particularly with the maintenance energy requirement (MER)). The MER depends upon BCS, sex, reproductive status, life stage, activity, and environment variables.
3. Create a monitoring plan. Teach the owner and shelter staff how to monitor BW, BCS, and/or MCS as appropriate. Adjust intake as needed to match changing needs over time.
4. Adjust or include dietary supplements if necessary, recommending specific types and amounts.
5. A diet change is sometimes necessary. Preferences for and recommendations about diet transition methods vary, with no clear evidence showing any one method is superior. Clinicians should use and recommend techniques based on their individual assessment of client and patient. Some animals tolerate an abrupt change in diet with little problem while others have gastrointestinal upset unless food is gradually changed over a 7-10 day period.

Diet Factors

1. Determine if current amount and type of food is appropriate, based on life stage, lifestyle/activity, disease, body condition, concurrent medications and/or medical procedures.
2. If diet factors are determined to be inadequate, prepare a plan for food and treats that provides appropriate calories and nutrient content for the patient.
3. Consider other food sources in total intake recommendations if necessary.
4. Recommend a specific feeding plan that incorporates pet food, treats, feeding method, and frequency.

³⁰ Modified from WSAVA Nutritional Assessment Guidelines Task Force Members: Lisa Freeman, Iveta Becvarova, Nick Cave, Clayton MacKay, Patrick Nguyen, Betina Rama, Gregg Takashima, Ross Tiffin, Hajime Tsjimoto, Peter van Beukelen. *Nutritional Assessment Guidelines. Journal of Small Animal Practice, Journal of Small Animal Practice*. Vol 52, July 2011. Pp. 385-96.

Feeding management and environment factors

General factors to consider when determining any changes in feeding management and any necessary environmental changes.

1. When creating a feeding schedule, remember to factor in whether the shelter is a stand-alone or co-located shelter; staffing requirements, number of animals currently in the shelter, maximum number of animals that may be taken into the shelter, etc.
2. Whereas some dogs and cats can maintain good body condition when fed free choice, others require meal feeding of appropriate amounts to maintain good body condition.
3. Confirm the use of an appropriate food-measuring device (e.g., an 8-oz or 237 ml measuring cup), and provide food in measured amounts (whether feeding free choice or meals).
4. Management changes may include provision of feeding toys and reducing conflict and competition for food.
5. Management changes may also include environmental enrichment such as increased opportunities for activity (play, exercise), efforts to decrease perceived threats from other animals (including humans) and reducing the frequency of unpredictable change in the animal's environment.

Create a plan for hospitalized animals

1. Create a monitoring plan and a feeding plan as discussed under animal factors and diet factors (i.e., diet, route, amount, and frequency).
2. Offer usual and favorite ("comfort") foods if at all possible to promote food intake. Avoid introduction of novel foods intended for long-term feeding in order to avoid the risk of inducing an aversion to the diet, especially in cats. A food aversion is avoidance of a food that the animal associates with an aversive experience.
3. The optimal route required to achieve nutrient requirements should be reassessed daily, and may include:
 - a. Voluntary oral feeding;
 - b. Coax feeding – small changes, such as warming the food, taking the animal to a quiet area for feeding, having the owner feed the animal, or stroking the animal while eating can enhance food intake;
 - c. Syringe feeding (be careful in animals with any nausea or who are stressed, as this can induce food aversions).
4. Other nutritional support techniques will be required for animals that have not eaten sufficient amounts by the aforementioned routes for 3-5 days (this includes the time of reduced appetite at home before hospitalization), and are not expected to resume reasonable amounts of food intake prior to further compromise of their nutritional status.
 - a. Use a feeding tube with animals that are not eating adequate amounts voluntarily. Use parenteral nutrition with animals that have gastrointestinal

dysfunction or in animals where enteral feeding has increased risk of aspiration;

- b. Evaluate closely and watch for complications associated with the route of nutrition used, particularly with recumbent or neurologically impaired patients.

Create a plan for animals in the general shelter population

1. Create a monitoring plan and a feeding plan as discussed under animal factors and diet factors (i.e., diet, route, amount, and frequency).
2. At co-located shelters, clearly inform the owner of the recommended feeding management factors to insure success.
3. At all shelters, make certain shelter staff are aware of how to monitor that the animals are receiving their food, and eating the offered food.
4. If an animal is obese, appropriate plans to modify the diet should be followed.
5. Create opportunities for staff and owners to:
 - a. Follow up with any questions and verify compliance/adherence to recommended feeding management or environment changes;
 - b. Repeat intake examination/assessment on a scheduled basis.

Monitoring

Healthy animals

Adults in good body condition should be reassessed regularly. Decisions regarding specific frequency of visits are made appropriately on an individual basis, based on the age, species, breed, health, and environment of the pet. Healthy pregnant, lactating, senior, and growing animals require more frequent monitoring. Pet owners should monitor their pet at home including:

- Food intake and appetite
- BCS and BW
- Gastrointestinal signs (e.g., fecal consistency and volume; vomiting)
- Overall appearance and activity

Animals with disease conditions and/or recommended nutritional changes

Non-hospitalized animals for which extended nutritional evaluation was indicated may require more frequent monitoring of nutritional assessment parameters. Frequent monitoring of BCS and MCS is important, as many diseases are associated with suboptimal scores. Also, animals with medical conditions are more likely to receive dietary supplements and to have medications administered with food, so specific attention to and review of these issues, with an update of the dietary plan, are important at each visit to ensure that the overall nutritional plan is optimized. Animals that are not in optimal body condition require frequent monitoring and adjustment of intake in order to achieve and maintain optimal body condition.

Hospitalized patients

Daily monitoring of hospitalized patients includes the above along with:

- Specific feeding orders which include diet, route, amount, and frequency.
- Fluid balance. Assessment of clinical signs (e.g., body weight changes, pulmonary crackles) or diagnostic tests (e.g., central venous pressure).
- Addressing optimal route of intake. The optimal route required to achieve nutrient requirements could change during hospitalization and should be reassessed daily (see above).
- Quantifying and documenting nutrient intake (via all routes).

Many hospitalized patients are discharged prior to complete resolution of their underlying disease. Document and communicate to the client the feeding method, caloric intake, diet, frequency and specific monitoring parameters, and the schedule for rechecks and re-assessment.

Discuss with the client any issues that may limit adherence to dietary recommendations (e.g., feeding schedule issues, complex instructions, and financial restrictions) and address appropriately (e.g., offer over-the-counter options for appropriate foods if financial restrictions will prevent the owner from consistently feeding the prescribed diet). Create a specific schedule for follow up via telephone to elicit questions and verify compliance/adherence.

Provide choices in foods that meet nutrient goals. Create a plan with the client about what to do if calorie/nutrient goals are not achieved.

When abnormal parameters have returned to normal or stabilized, the patient may continue on a therapeutic diet or be transitioned to a non-therapeutic diet. If a new diet is necessary, it may be introduced gradually, as previously described.

Additional Nutritional Management Resources:

- WSAVA Nutritional Assessment Guidelines Task Force Members: Lisa Freeman , Iveta Becvarova , Nick Cave, Clayton MacKay, Patrick Nguyen, Betina Rama, Gregg Takashima, Ross Tiffin, Hajime Tsjimoto, Peter van Beukelen. *Nutritional Assessment Guidelines. Journal of Small Animal Practice, Journal of Small Animal Practice*, 52, July 2011. Pp. 385-96.
- Miller, L, S Zawistowski. 2002. *Shelter Medicine for Veterinarians and Staff*. Blackwell.
- Many veterinary textbooks cover this subject and are not limited to the following:
 - AJ Fascetti, SJ Delaney. *Applied Veterinary Clinical Nutrition*. January 2012, Wiley-Blackwell.
 - Laurie Hess, Natalie Antinoff. *Nutrition and Behavior of Uncommon Species. Veterinary Clinics: Exotic Animal Practice*. April 2009, Saunders.
- Literature from pet food manufacturers.
- Local College of Veterinary Medicine animal nutritionist.

Parasite Treatment and Prophylaxis

Internal and external parasites are common in household pets. All animals entering disaster shelters should be treated for species-specific common parasites to protect against illness, protect against infestation of the population, prevent environmental contamination, and minimize zoonotic disease risk to shelter staff and the public. A basic parasite control protocol includes prophylactic treatment of all dogs and cats at intake for the most common internal and external parasites, including roundworms, hookworms, fleas and ticks.

The variable geographic presence of heartworm infection in this country is acknowledged and although diagnosis, control, and treatment presents considerable challenges it is recommended an appropriate heartworm management protocol be implemented when required. Consult with local and state animal health officials to determine heartworm prophylaxis plan if it is required based upon the recommendations from the American Heartworm Society's recommended protocol based for the region affected.

For animals that are heartworm positive, follow recommendations from the American Heartworm Society. Pending on shelter hospital capabilities, the cost of treatment, etc. it may not be feasible for a positive animal to be treated at a disaster shelter. Positive household pets may need to be referred to a local animal for treatment with costs associated for the treatment to be worked out between the owner and the referring clinic.

All dogs and cats should be treated with a basic de-wormer for roundworms and hookworms at intake, regardless of source, age, temperament, and health status.

The Animal Sheltering Best Practices Working Group guidelines provide information on appropriate sanitation protocols.

Additional Parasite Treatment and Prophylaxis Resources:

- *2008 Companion Animal Parasite Council (CAPC) Recommendations for the Diagnosis, Treatment, Prevention and Control of Parasitic Infections in U.S. Dogs and Cats.* Available online at: <http://www.capcvet.org/recommendations/guidelines.html>
- Current American Heartworm Society recommendations may be found at <http://www.heartwormsociety.org/>.
- *Parasite Control Guidelines for Animal Shelters.* UC Davis Koret Shelter Medicine Program. Available online at: www.sheltermedicine.com/portal/is_parasite_control.shtml

Decontamination

Decontamination is the process of removing, or rendering harmless, agents that have contaminated animals, responder personnel, and equipment. The purpose for decontamination is to limit tissue damage and absorption, to prevent systemic poisoning, confine contamination to a specified area, and to prevent secondary contamination to other animals, emergency responders, and veterinary hospitals³¹.

Animals that survive natural or manmade disasters or are deployed to disaster regions as part of a disaster response may become contaminated with debris, toxic chemical compounds, or biological pathogens that may pose serious health risks to themselves and/or humans. Large-scale disasters can result in the dispersal of a combination of toxic chemicals and hazardous materials into the environment. The decontamination of animals exposed to the hazards dispersed by natural disasters is an important component of responsible emergency management³².

In situations where veterinary or other animal-care personnel are unable to enter the disaster site, communication technologies may allow a veterinarian or other qualified personnel to remotely assist on-scene responders with animal management, decontamination, and triage from an appropriate distance.

Decontamination is especially critical to the health and safety of responders at radiation incidents, such as those stemming from the detonation of a nuclear device, and should be a priority. All veterinary hospitals and veterinary disaster response groups should have a written decontamination plan. Contacts should be made with other agencies to ensure cooperation and consistency. Decontamination should occur prior to veterinary examination in most instances in order to protect veterinary responders. It is important to note that advanced training is required for animal decontamination and typically many veterinarians do not have the necessary hazardous materials (HAZMAT) certifications.

Contamination

The best way to assure animals and equipment are decontaminated is prevent initial contamination. Responders must have a thorough understanding of what actions or exposures pose a risk of contamination.

Chemical and biologic agent exposure may occur by three primary routes:

1. *Inhalation/absorption through mucous membranes.* Inhaled gases, vapors and aerosols may be absorbed by any part of the respiratory tract including mucosa of the nasal passages, mouth, airways, and lungs. Due to permeability and surface area along with the direct and systemic effects, especially of chemical agents, this is the route most

³¹ From Wayne Wingfield, Veterinary Decontamination Procedures, Colorado State University.

³² Soric S, Belanger MP, Wittnich C. A method for decontamination of animals involved in floodwater disasters. *J Amer Vet Med Assn* 2008; 232(3):364-370.

likely to cause severe intoxication. There is currently no equipment designed to protect animals from this route of exposure. Protective shelters are under investigation but until available the only means to protect from this route is evacuation or expedient shelter.

2. *Absorption through the skin.* Liquid droplets and solid particles which come in contact with skin may be directly absorbed and have both direct and systemic effects. Due to the protective effect of the thick coat and the lower density of sweat glands in canine skin, we expect that animals are inherently less sensitive to cutaneous toxicity from chemical agents. All non-haired portions of the skin, the dense eccrine sweat gland areas of the foot pads and nose, and damaged or inflamed skin will likely promote absorption of chemical agent. In the horse, sweat glands are prominent over the body in spite of the dense hair coat and absorption of chemical weapons is likely in this species. Animals can only be protected from cutaneous absorption by preventing contact with the agent using shelters or evacuation. There is no protective garment for animals. Protection of skin integrity (maintaining healthy skin) and use of skin protectants should help reduce risk of cutaneous absorption.
3. *Ingestion.* Ingestion of agent may occur due to feeding of contaminated food or water or the animal licking a contaminated surface including its own skin and hair. Ingested agents will have direct effect on the gastrointestinal tract and absorption may result in systemic toxicity. The most important prevention is limiting the animal from being exposed to contaminated food, water, and environments.

Safety Requirements for Human Members of Animal Decontamination Teams

In keeping with principles outlined in the National Response Framework (NRF), safety requirements for the human members of any animal decontamination team should be developed by a trained safety officer on site, who is part of the incident command staff responsible for managing all disaster response operations and for developing priorities, objectives, and strategies. The safety officer must assess the on-scene hazards and risks to responders and develop appropriate personal safety measures that comply with Occupational Safety and Health Administration (OSHA) standards (www.osha.gov). The safety officer will develop a medical plan for responders based upon the risk and hazard assessment.

Medical Requirements for Personnel

All personnel should have appropriate medical and physical clearance prior to performing decontamination protocols. These requirements are determined by the safety officer or designated agency.

Personnel should receive appropriate prophylaxis when indicated by the Safety Officer against likely biological hazards that may be present at the disaster site.

Personal Protection Equipment (PPE)

The safety officer is responsible for determining the appropriate level of PPE that should be worn by personnel involved in the decontamination protocol. The safety officer must also

ensure that personnel are properly trained in using PPE and are aware of its limitations. In general, the level of PPE required is determined by a critical assessment of the hazard types and magnitude.

Decontamination Site Layout

Local hazardous material teams should be consulted prior to the development of decontamination sites, and admission into these zones will be restricted to trained personnel.

In general, hazard sites are traditionally divided into three zones:

1. Hot – Area that contains the hazard;
2. Warm – Area between the “hot” and “cold” zones;
3. Cold – Area free from any hazards.

These zones should be clearly marked, and access point to the zones should be monitored to prevent tracking of contaminants from the hot zone into the warm or cold zone.

Decontamination procedures should be established before allowing entrance into the contamination area (hot zone) for any reason including rescue. As animals and people exit the hot zone, they must be decontaminated. Decontamination will precede any sort of medical treatment to reduce the spread of contamination. Contaminated equipment (leashes, halters, saddles, etc.) must also be decontaminated as it leaves the hot zone. Decontamination takes place in the warm zone, in what is known as the contamination reduction corridor. The contamination reduction corridor extends from the outer boundary of the hot zone to the point of entry to the cold zone. Thus, entry into the cold zone must always be preceded by decontamination in the contamination reduction corridor. The cold zone is the location for the medical treatment rooms, animal kennels, and personnel quarters.

When selecting a site for animal decontamination, care should be taken to survey the surrounding physical environment. Selection of a decontamination site should be based upon availability, water supply, ability to contain runoff, and the proximity of drains, sewers, streams, and ponds. The site should be on high ground to minimize risk of recurrent flooding. The site must be upwind and uphill from the incident. Wind direction is critical, as the decontamination site should not be situated such that spray mists associated with washing and disinfecting are carried into the animal facility or personnel quarters in the cold zone. Protection against the sun is important, as excessive exposure can lead to dehydration and heat exhaustion in animals and in handlers wearing PPE. The site should also be a safe distance from the incident but close enough to allow easy access from the hot zone, thus limiting the spread of contaminants.

Patient Decontamination

Only personnel with appropriate hazardous materials training should be allowed to participate in animal decontamination operations. In many situations, this may be local hazardous

materials response teams or fire departments. Some state and federal veterinary response teams have veterinary personnel with hazardous materials training, but local first responders should identify veterinarians, animal control, agricultural agents, and other animal personnel that may respond within their communities during a disaster and help them to obtain the training and certifications that will enable them to participate in animal decontamination operations.

In general, owners should not decontaminate their own animals. If the owner is also contaminated, it is important that they are effectively decontaminated, something that is less likely to occur if they are instead participating in the decontamination of their animals. In order to provide comfort and reassurance to an animal owner that does not want to become separated from their animal, the owner and animal(s) should be commonly identified before proceeding through the respective decontamination lines so they can be more easily reunited afterwards. In certain circumstances, it might be possible to decontaminate animals and owners together.

We refer the reader to the Decontamination Best Practices Working Group report for more detailed information on decontamination.

Additional Decontamination Resources:

- Curran P (ed), 2005. *Decontamination procedures In Medical Response to Weapons of Mass Destruction*. Mosby-Jems, St. Louis, MO. Pp. 165-82.
- Mershon MM and AV Tennyson. 1987. *Chemical hazards and chemical warfare. Journal of the American Veterinary Medical Association*, 190. Pp. 734-45.
- American Veterinary Medical Association (AVMA). 1995. *AVMA Emergency Preparedness and Response Guide*. 1931 N. Meacham Rd. Suite 100, Schumberg, IL. 46204-2760.
- Soric, S, MP Belanger, C Wittnich. 2008. *A method for decontamination of animals involved in floodwater disasters. Journal of the American Veterinary Medical Association*, 232. Pp. 364-70.
- Wingfield, W, SB Palmer. 2009. *Veterinary Disaster Medicine*. Blackwell.

Euthanasia

Euthanasia must be carried out humanely whenever it is indicated. A best practice would be to refer to the current *AVMA Euthanasia Guidelines*. It is recommended that euthanasia be performed in an area separate from the general shelter population, such that no animals will witness the euthanasia of another animal. Trained personnel should be available to provide counseling as appropriate to owners. Euthanasia protocols may be determined by the jurisdictional authority under which the veterinary response is operating. For example, euthanasia protocols may include a consensus requirement such that at least two (2) veterinarians, or three (3) people, including a veterinarian and either an animal behaviorist or animal control officer are in agreement as to the necessity for euthanasia.

Veterinary Medical Euthanasia

It is important to establish protocols for euthanasia, including animals with identification for which the owner is unable to be contacted. The protocol must consider the humane ethics and realities of treating each animal in the disaster. The protocol should include provisions for when owner contact attempts have been exhausted and the animal's condition and risk to other animals and staff members requires timely euthanasia. Thorough written documentation must be generated to support these difficult decisions. Examples of euthanasia forms are supplied in see Appendix N.

If an animal is scheduled to be euthanized based on medical issues but has identifiable owner information *and* attempts to contact the owner have not been exhausted (as determined by the local or state jurisdictional authority):

1. If the animal is not suffering or in pain and does not pose a health or safety risk to other animals (or humans) in the shelter:
 - a. Place a notification hold on the animal. Follow normal procedures for owner contact.
2. If the animal is not in pain or suffering but is scheduled to be euthanized based on medical issues to protect the health of other animals in the shelter (for example, if it has been identified as having an infectious disease):
 - a. Consult with a veterinarian to determine whether any isolation and treatment procedures can be employed while attempts are made to contact the owner *and* establish what time frame would be humane and appropriate given the circumstances;
 - b. Record all veterinary observations and treatment prescriptions in the animal's log;
 - c. Follow veterinary recommendations regarding isolation and treatment or euthanasia;

- d. Attempt to contact the owner. If it was determined by the veterinarian that the animal should be humanely euthanized immediately (prior to contact), the veterinarian, manager, or director should make the contact.
3. If the animal is in pain or suffering but not at the point of death:
 - a. *Immediately* consult with a veterinarian to determine if palliative measures can be taken while attempts are made to contact the owner *and* establish what time frame would be humane and appropriate given the circumstances;
 - b. Record all veterinary observations and treatment prescriptions in the animal's log;
 - c. Follow veterinary recommendations regarding treatment or euthanasia;
 - d. Attempt to contact the owner. If it was determined by the veterinarian that the animal should be humanely euthanized immediately (prior to contact), the veterinarian, manager, or director should make the contact.
4. If the animal is at the point of death:
 - a. Humanely euthanize the animal;
 - b. Record all observations regarding the condition of the animal in the animal's log;
 - c. Attempt to contact the owner. A veterinarian, manager, or director should make the contact.
5. Disposal of animal carcass:
 - a. Best practices include thorough documentation of the euthanasia including a photograph of the deceased animal with a written description of the location, date, time, and animal's identification number in accordance with state and local laws;
 - b. Method of disposition for animal carcass should be determined by shelter manager after discussion with appropriate local or state authorities.

Shelter Biosecurity Considerations

Cleaning and disinfection of equipment and surfaces

1. Routine cleaning and disinfection are important for environmental control of pathogens;
2. Equipment and surfaces must be cleaned with water and detergent before they are disinfected because adherent organic material decreases the effectiveness of most disinfectants;
3. Personnel engaged in cleaning and disinfection should be trained in safe practices and provided with necessary safety equipment according to the products' material safety data sheets.

Isolation

Animals with potentially communicable diseases should be examined, cared for, and housed in designated isolation rooms to protect other patients and veterinary personnel. Isolation protocols should be prominently posted.

Handling of laundry

Although soiled laundry may be contaminated with pathogens, the risk of disease transmission is negligible if soiled items are handled correctly.

Decontamination and spill response

Spills and splashes of vomitus, body fluids, or potentially infective substances should be immediately contained with absorbent material.

Veterinary medical waste

Medical waste is defined and regulated at the state level by multiple agencies. Veterinary medical waste may include sharps, tissues, contaminated materials, and dead animals. Shelter managers should work with local and state animal health authorities to determine proper disposal of veterinary medical waste material generated by the response effort.

Rodent and Vector Control

Field veterinary personnel and animal responders have the greatest risk for exposure to vectors and should use repellents and protective clothing. Integrated pest management is the recommended approach to control rodents and vectors in veterinary medical buildings.

A comprehensive rodent and vector control plan that includes environmental control measures as follows:

- Sealing of potential entry and exit points into buildings with caulk, steel wool, or metal lath;
- Storage of food and garbage in metal or thick-plastic containers with tight lids;
- Disposal of food waste promptly;
- Elimination of potential rodent nesting sites (e.g., clutter);
- Remove sources of standing water (e.g., empty buckets, tires, and clogged gutters) to reduce potential mosquito breeding sites;

- Installation and maintenance of window screens to prevent entry of insects and rodents.

Other environmental controls

It is important to provide a staff break room or area for eating and drinking. Separate, appropriately labeled refrigerators should be used for human food, animal food, and biologics. Dishware for human use should be washed and stored away from animal care areas.

Additional Resources on Shelter Biosecurity:

- Petersen, CA, G Dvorak, A Rovid-Spickler. 2008. *Maddie's® Infection Control Manual for Animal Shelters for Veterinary Personnel, First Edition*. Iowa State University.
- Caveny L, B Jones, K Ellis. 2011. *Veterinary Infection Prevention and Control*. Blackwell.
- Miller, L, K Hurley. 2009. *Infectious Disease Management in Animal Shelters*. Blackwell.
- Miller, L, S Zawistowski. 2002. *Shelter Medicine for Veterinarians and Staff*. Blackwell.
- *NASPHV Compendium of Veterinary Standard Precautions, Journal of the American Veterinary Medical Association*. Vol. 237, No. 12, December 15, 2010.

Handling of Non-Household Animal Species

A large number of species are not addressed under the PETS Act, including exhibition animals, livestock, research animals and wildlife. Management of exotic and livestock/large animal species will be dictated by the authority in charge of the response effort. Species-specific vaccination and parasite control schedules may be found in veterinary books and journals, State laws, and the National Association of State Animal and Agricultural Emergency Programs (NASAAEP) library. Any wildlife rehabilitation will be dictated by the appropriate State Department of Natural Resources, U.S. Fish and Wildlife Services, or another government organization depending on the species of animal affected.

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Appendix A – FEMA Disaster Assistance Policy DAP 9523.19



FEMA

DISASTER ASSISTANCE POLICY

DAP9523.19

I. TITLE: Eligible Costs Related to Pet Evacuations and Sheltering

II. DATE: OCT 24 2007

III. PURPOSE:

The purpose of this policy is to identify the expenses related to State and local governments' emergency pet evacuation and sheltering activities that may be eligible for reimbursement following a major disaster or emergency declaration.

IV. SCOPE AND AUDIENCE:

This policy is applicable to all major disasters and emergencies declared on or after its date of issuance. It is intended to be used by FEMA personnel involved in making eligibility determinations under the Public Assistance Program.

V. AUTHORITY:

Sections 403 and 502 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Stafford Act), 42 U.S.C. 5170b, 42 U.S.C. 5192; the Pets Evacuation and Transportation Standards Act (PETS Act) of 2006, P.L. No. 109-308, § 4, 120 Stat. 1725 (2006); and 44 CFR §§ 206.223(a), 206.225(a).

VI. BACKGROUND:

On October 6, 2006, the PETS Act was signed into law, amending Section 403 of the Stafford Act. Section 403, as amended by the PETS Act, authorizes FEMA to provide rescue, care, shelter, and essential needs for individuals with household pets and service animals, and to the household pets and animals themselves following a major disaster or emergency.

VII. POLICY:

A. Definitions:

1. **Household Pet.** A domesticated animal, such as a dog, cat, bird, rabbit, rodent, or turtle that is traditionally kept in the home for pleasure rather than for commercial purposes, can travel in commercial carriers, and be housed in temporary facilities. Household pets do not

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DAP9523.19

include reptiles (except turtles), amphibians, fish, insects/arachnids, farm animals (including horses), and animals kept for racing purposes.

2. **Service Animal¹.** Any guide dog, signal dog, or other animal individually trained to provide assistance to an individual with a disability including, but not limited to, guiding individuals with impaired vision, alerting individuals with impaired hearing to intruders or sounds, providing minimal protection or rescue work, pulling a wheelchair, or fetching dropped items.

3. **Congregate Household Pet Shelters.** Any private or public facility that provides refuge to rescued household pets and the household pets of shelterees in response to a declared major disaster or emergency.

B. Eligibility. State and local governments that receive evacuees from areas declared a major disaster or an emergency may seek reimbursement for eligible pet rescue, sheltering, and evacuation-support costs.

1. State and local governments outside the designated disaster area may seek reimbursement under mutual aid protocols through the affected and supported state(s). (44 CFR § 206.223(a)(2)).

2. State and local governments are the only eligible applicants for sheltering and rescuing household pets and service animals. Contractors or private nonprofit (PNP) organizations that shelter or rescue household pets and service animals cannot be reimbursed directly as an applicant. However, contractors and PNPs can be reimbursed for sheltering and rescuing household pets and service animals through a state or local government, provided a written statement from an eligible applicant is presented in which the applicant verifies that the contractor or PNP is performing or has performed sheltering or rescuing operations on the applicant's behalf and the expenses are documented.

C. Household Pet Rescue. State and local governments may conduct rescue operations for household pets directly or they may contract with other providers for such services. Eligible costs include, but are not limited to, the following:

1. Overtime for regular full-time employees.

¹ Department of Justice, Americans with Disabilities Act (ADA), 42 USC 1201 et seq, implementing regulations at 28 CFR § 36.104.



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2. Regular-time and overtime for contract labor (including mutual aid agreements) specifically hired to provide additional support required as a result of the disaster.

3. The use of applicant-owned or leased equipment (such as buses or other vehicles) to provide eligible pet transportation to congregate pet shelters may be reimbursed according to 44 CFR § 206.228(1)(a) (does not include operator labor). The cost of leasing equipment for this purpose may also be eligible for reimbursement.

D. Congregate Household Pet Sheltering. State and local governments may conduct sheltering operations for pets directly, or may contract with other sheltering providers for such services. Eligible Category B congregate pet sheltering costs may include, but are not limited to, the *reasonable* costs for:

1. Facilities.

- Minor modifications to buildings used for congregate household pet sheltering, if necessary to provide increased capacity for the accommodation of shelterees' household pets.
- Facility lease or rent.
- Increase in utility costs, such as power, water, and telephone.
- Generator lease and operation (but not purchase).
- Shelter safety and security.
- Shelter management.
- Shelter and crate/cage cleaning.

2. Supplies and Commodities. Eligible items are those needed for, and used directly on, the declared disaster, and are reasonable in both cost and need. Examples include:

- Food, water, and bowls.
- Crates/Cages.
- Pet transport carriers.
- Animal cleaning tables and supplies.
- Medication for animal decontamination and parasite control to ensure that the animal is not a health threat to humans or other animals.

3. Eligible Labor. If the regular employees of an eligible applicant perform duties in direct support of congregate pet sheltering operations, any overtime pay related to such duties is eligible for reimbursement. However, the straight-time pay of these employees is not eligible. Regular-time and overtime for contract labor, including mutual aid agreements,

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specifically hired to provide additional support required as a result of the disaster or emergency is also eligible for reimbursement.

4. Equipment. The use of applicant-owned or leased equipment (such as buses, trucks, or other vehicles) to provide eligible pet evacuation or sheltering support may be reimbursed according to 44 CFR §206.228(1)(a) (does not include operator labor). The cost of leasing equipment may also be an eligible expense for reimbursement.

5. Emergency Veterinary Services. For the purposes of screening the health of household pets and service animals, and assessing and treating minor illnesses and injuries, congregate pet shelters may be staffed with emergency veterinary teams. The following costs related to the provision of emergency veterinary services in a congregate pet sheltering environment are eligible for reimbursement:

- Veterinary diagnosis, triage, treatment, and stabilization.
- Provision of first aid, including materials (bandages, etc.).
- Medicine.
- Supervision of paid and volunteer veterinary staff.
- Vaccinations administered to protect the health and safety of congregate shelter and supporting emergency workers including but not limited to tetanus and hepatitis.
- Vaccinations administered to protect the health and safety of congregate shelter pets for transmissible or contagious diseases including but not limited to bordetella/kennel cough.

6. Transportation. Transportation of evacuees' household pets and service animals to congregate shelters from pre-established pickup locations is an eligible expense when the means of transportation used is the most cost-effective available.

7. Shelter Safety and Security. Additional reimbursable safety and security services may be provided at congregate pet shelters, based upon need.

8. Cleaning and Restoration. The costs (to the Applicant) to clean, maintain, and restore a facility to pre-congregate pet shelter condition are eligible.

9. Removal and Disposal of Animal Carcasses. The costs (to the Applicant) to remove and dispose of animal carcasses in a safe and timely manner and in compliance with applicable laws and regulations are eligible.

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10. Cataloging/Tracking System for Pets. The reasonable costs (to the Applicant) for tracking animals at congregate pet shelters for the purposes of reuniting them with their owners are eligible.

E. **Service animals**. Service animals will be sheltered with their owners in congregate shelters.

F. **Length of Operation**. Costs of sheltering/caring for household pets will no longer be eligible for FEMA reimbursement when the pet owner transitions out of Section 403 emergency sheltering.

VIII. **ORIGINATING OFFICE**: Disaster Assistance Directorate (Public Assistance Division).

IX. **SUPERSESSION**: This policy supersedes all previous guidance on this subject.

X. **REVIEW DATE**: Three years from date of publication.

Carlos J. Castillo
Assistant Administrator
Disaster Assistance Directorate

Appendix B – ADA 2011 Revised Requirements – Service Animals

U.S. Department of Justice
Civil Rights Division
Disability Rights Section



ADA
2010 Revised
Requirements

Service Animals

The Department of Justice published revised final regulations implementing the Americans with Disabilities Act (ADA) for title II (State and local government services) and title III (public accommodations and commercial facilities) on September 15, 2010, in the Federal Register. These requirements, or rules, clarify and refine issues that have arisen over the past 20 years and contain new, and updated, requirements, including the 2010 Standards for Accessible Design (2010 Standards).

Overview

This publication provides guidance on the term “service animal” and the service animal provisions in the Department’s revised regulations.

- Beginning on March 15, 2011, only dogs are recognized as service animals under titles II and III of the ADA.
- A service animal is a dog that is individually trained to do work or perform tasks for a person with a disability.
- Generally, title II and title III entities must permit service animals to accompany people with disabilities in all areas where members of the public are allowed to go.

How “Service Animal” Is Defined

Service animals are defined as dogs that are individually trained to do work or perform tasks for people with disabilities. Examples of such work or tasks include guiding people who are blind, alerting people who are deaf, pulling a wheelchair, alerting and protecting a person who is having a seizure, reminding a person with mental illness to take prescribed medications, calming a person with Post Traumatic Stress Disorder (PTSD) during an anxiety attack, or performing other duties. Service animals are working animals, not pets. The work or task a dog has been trained to provide must be directly related to the person’s disability. Dogs whose sole function is to provide comfort or emotional support do not qualify as service animals under the ADA.

(continued, page 2)

This definition does not affect or limit the broader definition of “assistance animal” under the Fair Housing Act or the broader definition of “service animal” under the Air Carrier Access Act.

Some State and local laws also define service animal more broadly than the ADA does. Information about such laws can be obtained from that State’s attorney general’s office.

Where Service Animals Are Allowed

Under the ADA, State and local governments, businesses, and nonprofit organizations that serve the public generally must allow service animals to accompany people with disabilities in all areas of the facility where the public is normally allowed to go. For example, in a hospital it would be inappropriate to exclude a service animal from areas such as patient rooms, clinics, cafeterias, or examination rooms. However, it may be appropriate to exclude a service animal from operating rooms or burn units where the animal’s presence may compromise a sterile environment.

Service Animals Must Be Under Control

Under the ADA, service animals must be harnessed, leashed, or tethered, unless these devices interfere with the service animal’s work or the individual’s disability prevents using these devices. In that case, the individual must maintain control of the animal through voice, signal, or other effective controls.

Inquiries, Exclusions, Charges, and Other Specific Rules Related to Service Animals

- When it is not obvious what service an animal provides, only limited inquiries are allowed. Staff may ask two questions: (1) is the dog a service animal required because of a disability, and (2) what work or task has the dog been trained to perform. Staff cannot ask about the person’s disability, require medical documentation, require a special identification card or training documentation for the dog, or ask that the dog demonstrate its ability to perform the work or task.
- Allergies and fear of dogs are not valid reasons for denying access or refusing service to people using service animals. When a person who is allergic to dog dander and a person who uses a service animal must spend time in the same room or facility, for example, in a school classroom or at a homeless shelter, they both should be accommodated by assigning them, if possible, to different locations within the room or different rooms in the facility.
- A person with a disability cannot be asked to remove his service animal from the premises unless: (1) the dog is out of control and the handler does not take effective action to control it or (2) the dog is not housebroken. When there is a legitimate reason to ask that a service animal be removed, staff must offer the person with the disability the opportunity to obtain goods or services without the animal’s presence.

- Establishments that sell or prepare food must allow service animals in public areas even if state or local health codes prohibit animals on the premises.
- People with disabilities who use service animals cannot be isolated from other patrons, treated less favorably than other patrons, or charged fees that are not charged to other patrons without animals. In addition, if a business requires a deposit or fee to be paid by patrons with pets, it must waive the charge for service animals.
- If a business such as a hotel normally charges guests for damage that they cause, a customer with a disability may also be charged for damage caused by himself or his service animal.
- Staff are not required to provide care or food for a service animal.

Miniature Horses

In addition to the provisions about service dogs, the Department's revised ADA regulations have a new, separate provision about miniature horses that have been individually trained to do work or perform tasks for people with disabilities. (Miniature horses generally range in height from 24 inches to 34 inches measured to the shoulders and generally weigh between 70 and 100 pounds.) Entities covered by the ADA must modify their policies to permit miniature horses where reasonable. The regulations set out four assessment factors to assist entities in determining whether miniature horses can be accommodated in their facility. The assessment factors are (1) whether the miniature horse is housebroken; (2) whether the miniature horse is under the owner's control; (3) whether the facility can accommodate the miniature horse's type, size, and weight; and (4) whether the miniature horse's presence will not compromise legitimate safety requirements necessary for safe operation of the facility.

**For more information about the ADA,
please visit our website or call our toll-free number.**

ADA Website
www.ADA.gov

To receive e-mail notifications when new ADA information is available, visit the ADA Website's home page and click the link near the top of the middle column.

ADA Information Line

800-514-0301 (Voice) and 800-514-0383 (TTY)

24 hours a day to order publications by mail.
M-W, F 9:30 a.m. – 5:30 p.m., Th 12:30 p.m. – 5:30 p.m. (Eastern Time)
to speak with an ADA Specialist. All calls are confidential.

For persons with disabilities, this publication is available in alternate formats.

Duplication of this document is encouraged. July 2011

Appendix C – Office of Fair Housing and Equal Opportunity Memorandum



U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
WASHINGTON, DC 20410-2000

OFFICE OF FAIR HOUSING
AND EQUAL OPPORTUNITY

February 17, 2011

TO: FHEO Region Directors

FROM: Sara K. Pratt, Deputy Assistant Secretary for Enforcement and Programs

SUBJECT: New ADA Regulations and Assistance Animals as Reasonable Accommodations under the Fair Housing Act and Section 504 of the Rehabilitation Act of 1973

I. Purpose

This memo explains that the Department of Justice's (DOJ) recent amendments to its Americans with Disabilities Act (ADA) regulations¹ do not affect reasonable accommodation requests under the Fair Housing Act (FHA) and Section 504 of the Rehabilitation Act of 1973 (Section 504). The DOJ's new rules limit the definition of "service animal" in the ADA to include only dogs. The new rules also define "service animal" to exclude emotional support animals. This definition, however, does not apply to the FHA or Section 504. Disabled individuals may request a reasonable accommodation for assistance animals in addition to dogs, including emotional support animals, under the FHA or Section 504. In situations where both laws apply, housing providers must meet the broader FHA/Section 504 standard in deciding whether to grant reasonable accommodation requests.

II. Definitions of Service Animal

The DOJ's new ADA rules define "service animal" as any dog that is individually trained to do work or perform tasks for the benefit of an individual with a disability, including a physical, sensory, psychiatric, intellectual, or other mental disability. The new rules specify that "the provision of emotional support, well-being, comfort, or companionship do not constitute work or tasks for the purposes of this definition." Thus, trained dogs are the only species of animals that may qualify as service animals under the ADA (there is a separate provision regarding miniature horses) and emotional support animals are expressly precluded from qualifying as service animals.

Neither the FHA, Section 504, nor HUD's implementing regulations contain a specific definition of the term "service animal." However, species other than dogs, with or without

¹ Nondiscrimination on the Basis of Disability in State and Local Government Services, Final Rule, 75 Fed. Reg. 56164 (Sept. 15, 2010) (to be codified at 24 C.F.R. part 35); Nondiscrimination on the Basis of Disability in State and Local Government Services, Final Rule, 75 Fed. Reg. 56236 (Sept. 15, 2010) (to be codified at 24 C.F.R. part 36).

training, and animals that provide emotional support have been recognized as necessary assistance animals under the reasonable accommodation provisions of the FHAct and Section 504. The new ADA regulation does not change this FHAct/Section 504 analysis, and specifically notes, “[u]nder the FHAct, an individual with a disability may have the right to have an animal other than a dog in his or her home if the animal qualifies as a ‘reasonable accommodation’ that is necessary to afford the individual equal opportunity to use and enjoy a dwelling, assuming that the animal does not pose a direct threat.”² In addition, the preambles to the new rules state that emotional support animals do not qualify as service animals under the ADA but may “nevertheless qualify as permitted reasonable accommodations for persons with disabilities under the FHAct.”³

III. Applying the Law

Under the FHAct and Section 504, individuals with a disability may be entitled to keep an assistance animal as a reasonable accommodation in housing facilities that otherwise impose restrictions or prohibitions on animals. In order to qualify for such an accommodation, the assistance animal must be necessary to afford the individual an equal opportunity to use and enjoy a dwelling or to participate in the housing service or program. Further, there must be a relationship, or nexus, between the individual’s disability and the assistance the animal provides. If these requirements are met, a housing facility, program or service must permit the assistance animal as an accommodation, unless it can demonstrate that allowing the assistance animal would impose an undue financial or administrative burden or would fundamentally alter the nature of the housing program or services.⁴

Under the ADA, the animal need only meet the definition of “service animal” to be covered by the law. No further test or reasonable accommodation analysis should be applied. An individual’s use of a service animal in an ADA-covered facility should not be handled as a request for reasonable accommodation. If an animal qualifies as a “service animal,” ADA-covered entities may not restrict access to a person with a disability on the basis of his or her use of that service animal unless the animal is out of control and its handler does not take effective action to control it or if the animal is not housebroken. The service animal must be permitted to accompany the individual with a disability to all areas of the facility where customers are normally allowed to go.

² 75 Fed. Reg. at 56194, 56268.

³ 75 Fed. Reg. at 56166, 56240.

⁴ The request may also be denied if the specific animal in question poses a direct threat to the health and safety of others that cannot be reduced or eliminated by a reasonable accommodation or if the specific animal would cause substantial physical damage to the property of others that cannot be reduced or eliminated by a reasonable accommodation.

The new ADA definition of “service animal” applies to state and local government services, public accommodations, and commercial facilities; the FHAct covers housing services and facilities; and HUD’s Section 504 regulations apply to all recipients of HUD-funds. Some types of entities, such as rental offices and housing authorities, are subject to both the service animal requirements of the ADA and the reasonable accommodation provisions of the FHAct or Section 504. Entities must ensure compliance under all relevant civil rights laws. Compliance with the ADA’s regulations does not ensure compliance with the FHAct or Section 504. An entity that is subject to both the ADA and the FHAct or Section 504 must permit access to ADA-covered “service animals” and, additionally, apply the more expansive assistance animal standard when considering reasonable accommodations for persons with disabilities who need assistance animals that fall outside the ADA’s “service animal” definition.

IV. Conclusion

The ADA regulations’ revised definition of “service animal” does not apply to reasonable accommodation requests for assistance animals in housing under either the FHAct or Section 504. Rules, policies, or practices must be modified to permit the use of an assistance animal as a reasonable accommodation in housing when its use may be necessary to afford a person with disabilities an equal opportunity to use and enjoy a dwelling, common areas of a dwelling, or participate in, or benefit from, any housing program receiving Federal financial assistance from HUD, unless an exception applies.

Appendix D – Recommended Personal Preparedness Kit/Go Bag

The following list of “Go-bag” content items is a recommendation that animal disaster responders bring with them to a response. Each disaster presents a different set of variables to contend with and items brought with a responder should be considered prior to preparation for deployment. The kit shown below will last for 72 hours.

Gear

- 3 day foodstuffs, utensils
- 3 days of potable water, minimum / Camelbak or equivalent
- Rain gear/poncho
- Headlight/flashlight/spare batteries
- ID vest/ reflective/ ID badge
- Pocket knife, Swiss army or multitool
- Work gloves
- Whistle on neck lanyard
- Notepad, pencil, pen, (non-water soluble ink)
- Space Blanket, Mylar or foil, windbreak
- PPE, gloves (nitrile preferred) N-95 or 100 mask
- Small normal saline solution bottle (eye wash/nasal rinse)
- Small First aid kit, self-care/ foam ear plugs
- Small sewing kit/ safety pins
- Paracord or cordage, 50' , with a few clothes pins
- 2 large trash bags (leaf size)
- Water purification options include:
 - Water purification tabs
 - Water purification bottle
 - Nalgene, for treating water, 1 liter

Clothing

- Sturdy footwear or boots, spares
- Thick wool or hydrophobic material socks, Coolmax, Thermax or equivalent, several pairs
- Flip flops or bath sandals
- Long pants, loose fitting, pockets
- Bandanna
- Belt, for attaching walkie-talkie clip
- Shirt, nylon, polyester, pockets, long & short sleeves, quick dry
- Undergarments, athletic-hydrophobic, as available
- Hat, seasonal, with brim
- Sunglasses, with lanyard
- Spare glasses/ or eye protection if no glasses

- Jacket, fleece or polyfill
- Gloves for warmth, seasonal
- Stocking cap, seasonal
- Casual change of clothes, comfortable, doubles as sleepwear

Personal Gear

- Medications, Rx, OTC, sunscreen, insect repellent
- Dental care, floss works as thread
- Deodorant, toilet paper
- Soap/shampoo/razor/hand sanitizer
- Washcloth, small towel, wet wipes
- Cash, small denominations
- Small mirror, tweezers
- Charger for cell phone/ PDA, 110/12V
- Sleeping bag/pad/folding chair (in trailer?)
- Personal medical history
- Toenail clippers
- Small daypack/fanny pack if no Camelbak
- First aid kit

Appendix E – Recommended Household Pet Veterinary Medical Cache

During a disaster response, veterinary medical supplies may be in short supply. The following lists items that are components of the household pet veterinary medical cache. Although this is an exhaustive list, it should be noted that contents of this list include suggested materials and is not all encompassing. As such, this list is intended as a guideline rather than a rule. This list should be analyzed based upon the disaster response prior to deployment. It is recommended to work with local animal health officials/teams regarding activating memorandum of understanding (MOU) or contacting local distributors to acquire vaccinations and test kits.

Personal Equipment

| | |
|-----------------------------------|-------------------------------------|
| Paper Pad | Stethoscope |
| Form, Medical Record SA | Ferric Subsulfate cauterizing agent |
| Form, Medical Record Exotic/Avian | Gloves, Exam Nitrile small |
| Band, Animal Identification Neck | Gloves, Exam Nitrile medium |
| Formulary | Gloves, Exam Nitrile large |
| Pen | Flashlight with D-cell batteries |
| Marker, Permanent (Sharpie®) | Headlamp |
| Document Wallet | Penlight |
| Calculator | Clipper, cordless |
| Muzzle Small | Blade, Clipper #40 |
| Muzzle Med | Thermometer, digital |
| Muzzle Large | Cold Packs, disposable |
| Muzzle Feline | Otoscope/Ophthalmoscope Diagnostic |
| Leash Nylon | Otoscope Cones |
| Tourniquet | Pet Piller device |

Pharmaceutical Soft Side Case

| | Concentration |
|--------------------------------|----------------------|
| Dexamethasone Sodium Phosphate | 4 mg/ml |
| Diphenhydramine | 50 mg/ml |
| Heparin | 10,000 U/ml |
| Acepromazine | 10 mg/ml |
| Cefazolin | 1g vials |
| Ampicillin | 1g vials |
| Medetomidine | 1000 ug/ml |
| Atipamezole | |
| Lidocaine 2% | 20 mg/ml |
| Epinephrine | |
| Sodium Pentobarbital | |
| Ketamine | 100 mg/ml |
| Diazepam | 5 mg/ml |
| Hydromorphone | 2 mg/ml |

| | |
|--------------------------------------|------------|
| Enrofloxacin | 22.7 mg/ml |
| Atropine Sulfate | 0.54 mg/ml |
| Fluids, LRS | |
| Fluid, Hetastarch | 6% Sol |
| Injectable antiemetic (e.g. Cerenia) | |

Oral and Topical Medications

Topical flea/scabies treatment
 Cephalexin capsules 250 and 500 mg
 Oral flea control
 Oral pain control (NSAID) of choice
 Oral anthelmenthic (e.g. Pyrantel)
 Metronidazole 250 and 500 mg
 Oral antiemetic
 Oral Steroid (Prednisone) 5 and 20 mg

Vaccinations

Distemper/Parvo combo
 Rabies
 Feline Upper Respiratory
 Feline Leukemia
 Bordetella Intranasal/Parenteral

Vascular Access/Blood Collection

Butterfly 21 G ¾"
 Butterfly 19 G ¾"
 Butterfly 23 G ¾"
 Catheter 18 G 1.25"
 Catheter 20 G 1.25"
 Catheter 22 G 1.25"
 Syringe LL 6cc
 Syringe LL 12cc
 Syringe LL 3cc 22g needle
 Syringe LL 1cc 25g needle
 Syringe 1cc No needle
 Syringe 3cc No needle
 Syringe 60 cc No needle
 Needle 18g x 1"
 Needle 20g x 1"
 Needle 22g x ¾"
 Prep Pads, Isopropyl Alcohol 70%
 Towelette, Antiseptic, Benz-Chloride
 Pre Pad, Povidon Iodine

Blood tube, Serum Separator 4cc
Blood tube, EDTA, 3cc
Port, Injection
Infuser Cuff, Pressure
IV Catheter plugs

IV Fluids

IV drip sets 78", 15 drops
IV drip sets 78", 60 drops
IV extension set

Eye Medication

Eye Irrigation Solution, 4oz
Artificial Tears
Ophthalmic Neo Poly Bac
Ophthalmic Neo Poly Bac w/Hydrocortisone
Fluorescein Strip

Surgical Supplies

Laceration Tray 4 piece (disposable)
Suture, Vicryl 2-0
Suture, PDS 2-0
Skin Stapler, disposable
Nexaband
Gloves, sterile 6.5
Gloves, sterile 7.5
Gloves, sterile 8.5
Brush, Scrub w/PCMX
Surgical Blades, #10

Bandaging/Coaptation

Non-Adherent Bandage, Telfa 3" x 4"
Gauze, Roll 3"
Cast Padding 2"
Cast Padding 4"
Tape, Porous 1"
Tape, Porous 2"
Tape, Cohesive Flexible 2"
Tape, Cohesive Flexible 4"
Tape, Elastic 2"
Gauze, 4x4 nonsterile
Gauze, 4x4 sterile
Cotton Tipped Applicators

Applicators, Cotton Tipped
Splint, Spoon small
Splint, Spoon medium
Splint, Spoon large
Scissors, Bandage Lister 5 ½"
Pack, Thomas Transport
Vet Wrap/Adhesive Wrap

Special Consideration: (Refer to State Vet Board and DEA)
Euthanasia solution

Appendix F – Recommended Vaccinations for Household Pet Responders

It is recommended that Household Pet Responders follow the CDC vaccination guidelines for disaster responders (see Table 3 below). Immunizations recommended by the CDC include:

- Tetanus: In accordance with the current CDC guidelines, responders should receive a tetanus booster if they have not been vaccinated for tetanus during the past 10 years. Td (tetanus/diphtheria) or Tdap (tetanus/diphtheria/pertussis) can be used; getting the Tdap formula for one tetanus booster during adulthood is recommended to maintain protection against pertussis. While documentation of vaccination is preferred, it should not be a requisite to work.
- Hepatitis B: Hepatitis B vaccine series for persons who will be performing direct patient care or otherwise expected to have contact with bodily fluids.

According to the CDC there is no indication for the following vaccines for disaster responders in the United States. However, these additional vaccinations may be recommended by local health authorities:

- Hepatitis A vaccine (low probability of exposure). Vaccination will take at least one to two weeks to provide substantial immunity.
- Typhoid vaccine (low probability of exposure).
- Cholera vaccine (low probability of exposure, no licensed cholera vaccine available in the U.S.).
- Meningococcal vaccine (no expectation of increased risk of meningococcal disease among emergency responders).
- Pre-exposure rabies vaccine series (the full series is required for protection) for disaster veterinary medical personal and others who may be handling animals and are at risk as many animals brought into shelters have an unknown vaccination history. Persons who are exposed to potentially rabid animals should be evaluated and receive standard post-exposure prophylaxis, as clinically appropriate.³³

A few points to mention on responder vaccinations:

- In the majority of cases, volunteers are responsible for covering the costs of their vaccinations. Exceptions were state responders in Florida and Mississippi, who offered limited vaccinations (Hepatitis and tetanus) to their animal first responders.³⁴
- International responders will need to adhere to the vaccination guidelines of the responding organization and the region they are being deployed. The following list serves as a guideline.

³³ Content Source: Centers for Disease Control and Prevention (CDC)

(<http://www.bt.cdc.gov/disasters/disease/responderimmun.asp>) Immunization Recommendations for disaster responders.

³⁴ E-mail correspondence with animal health officials in Florida and Mississippi in 2010.

Table 3 - Recommendations from CDC and TravelDoc-UK

| Disease | # of vaccinations required for immunization | Duration of protection (Next Booster or Test by Time frame) |
|---|---|---|
| Yellow Fever | 1 | 10 years |
| Typhoid | 1 | 3 years |
| Hepatitis A | 2 | 10 years |
| Hepatitis B | 3 | 5 years |
| Polio** | 1 | 10 years |
| Meningitis (Meningococcal)** | 1 | 3 years |
| Pneumococcal** | 2 | 5 years |
| Measles/Mumps/Rubella (MMR)* | 1 | 10 years |
| Diphtheria/Pertussis/Tetanus (dPT/Td)*# | 1 | 10 years |
| Varicella** | 2 | 50 years |
| Cholera | 2 | 3 months |
| Tick borne Encephalitis** | 3 | 2 years |
| Japanese Encephalitis** | 3 | 3 years |
| Tuberculosis (TB) Test (PPD) | 1 | 6 months |
| Influenza | 1 | 1 year |
| Rabies** | 3 | 2 years |

*Primary immunization beforehand.

** These are recommendations; your health conditions needs to be discussed with your physician before vaccinating.

#Pertussis vaccination not needed in boosters only as part of childhood immunization.

Appendix G – Veterinary Medical Forms

The following forms are examples of forms currently being used in emergency response situations. These templates serve only as recommended guidelines.

VMAT MAMMAL PATIENT RECORD

Deployment/Event _____ Clinician(s) _____ Please

Initial _____

Procedure Location _____ Time _____ am/pm (circle one) Date
(dd/mm/yr) _____

Owner or Point of origin _____ Holding _____

Enclosure/Location# _____

Contact Phone () - _____ Address _____

Service Animal Affiliation _____

Animal Name _____ Species _____ Breed _____

Color _____

VMAT ID# _____ Microchip # _____ Ear Tag# _____ Brand/Tattoo _____ Photo# _____

Gender : M /F (circle) Neuter Y/N (circle) Age/Birth (dd/mm/yr)

_____ estimate/actual (circle) _____

Previous weight _____ kg/lb(circle) est/actual (circle) Current wt _____ kg/lb

(circle) est./actual (circle) _____

Sent to: _____

| | | | | | |
|-------------------------------|--------|------------|--------------------|---|------|
| PRESENTING PROBLEM(S): | | | | | DATE |
| | | | | | |
| PREVIOUS PROBLEM(S): | | | | | |
| | | | | | |
| PREVIOUS TREATMENTS/VACCINES: | | | | | |
| | | | | | |
| PREVIOUS DIAGNOSTICS: | | | | | |
| | | | | | |
| RESTRAINT Required: | | | | | |
| Previous Anesthetic(s) | Dosage | Total Dose | Anesthetic Stage # | Evaluation/Complications excel/good/fair/poor/unk | |
| | Per | | | | |
| | Per | | | | |
| Present | Dosage | | | | |
| | Per | | | | |
| | Per | | | | |
| | Per | | | | |
| Endotracheal Tube Size # | | | Procedure: | | |

PHYSICAL EXAM CHECKLIST & RESULTS (also see anesthesia form)

Time: _____ Body Temp: _____ 'C/F (circle) Pulse/min _____ Respiration/min _____

MM Color _____ Capillary Refill Time(sec) _____ Subjective Hydration _____

General Body Condition: obese/good/fair/emaciated _____

Appearance/Activity Level: vigorous/good/weak/unthrifty _____

Visual Exam: _____

Oral Exam: _____

Ophthalmic: _____

Otic: _____

Palpation: _____

Auscultation: _____

Additional Findings: _____

DIAGNOSTIC PROCEDURES AND RESULTS

On site: PCV% TP _____ BUN _____ Glucose _____ Other: _____

Lab Name: _____

Check All Sent: CBC CHEM Blood Smear U/A Other: _____

Histopathology Source _____

Feline Panel (FIP/FELV/FIV/TOXO) Coggins Test Brucellosis

Other serology/titers _____

TUBERCULIN TEST MFG. _____ EXP. DATE _____ ISOLATE _____

Results 24hr _____ 48hr _____ 72 hr _____
OTHER TESTS _____

CULTURES:

BACTERIAL: Source _____ FUNGAL: Source _____
BIOPSY: Site _____ CYTOLOGY: Source _____
_____ SKIN SCRAPING: Site(s) _____

IMAGING:

Radiograph View _____ Ultrasound View _____

TREATMENTS:

ANTIBIOTICS /dose _____

ANTIPARASITES /dose _____
RABIES VACCINE MFG _____ SERIAL # _____
OTHER VACCINES _____

VITAMINS / MINERALS _____

ANTIINFLAMMITORIES / ANALGESICS _____

DENTAL PROCEDURES _____

FLUIDS: SQ _____ IV _____

Assessment: _____

Surgical / Medical Report (add pages as needed): _____

Long Range Plan: _____

Further Diagnostics: _____

Housing / Diet change _____

Records

VMAT Mammal Patient

Animal Temporary Shelter Form

KSART 2010v.1

Animal Temporary Shelter Admission Form

| | | | | | | |
|----------------------------|---|---|--|---|-----------------|---|
| Owned Animals | ← | [| |] | Owned | Admission Personnel: Please initial the category of the pet, and instruct the owner to complete only the information outlined in their category. Then remove the appropriate corner from the back to resist future alteration. |
| Rescued Animals | ← | [| |] | Rescued | |
| Official Admissions | ← | [| |] | Official | |

Date: _____

General Animal Information

Nearest Street Intersection: _____

Where was the animal found: _____

Color and Markings: _____

Food, Water, and Medication Offered: _____

| |
|-------------|
| GPS |
| Elev. _____ |
| Lat. _____ |
| Long. _____ |

Your Information

Name: _____ (_____)
Home

Address: _____ (_____)
Street Apartment/Unit # Cell

_____ (_____)
City State ZIP Code Other Phone (Please Specify)

Employer: _____ Email: _____

Social Security Number: _____ Driver' License Number: _____

How can we reach you while you are away from your home address?

Name of Person: _____
Relationship to you (Parent, Friend, etc)

Address: _____ (_____)
Street Apartment/Unit # Home Phone

_____ (_____)
City State ZIP Code Other Phone (Please Specify)

Your Veterinarian

Name: _____ (_____)
Phone

Veterinary Clinic: _____
City State

Your Animal

Name: _____ Sex: _____ Age: _____ Species: _____ Breed: _____

Color and Markings: _____ Microchip#: _____

Medications and Conditions: _____

Vaccination and Tesing

| | | | | | | |
|--------------------|------------------------|------------------------|------------------|-----------------|----------------|-------|
| Dates Canine | | | | | | + / - |
| Rabies Vaccination | Distemper+ Vaccination | Bordetella Vaccination | Leptospirosis Vx | Lyme Disease Vx | Heartworm Test | |
| Dates Feline | | | | | | + / - |
| Rabies Vaccination | FVR+ Vaccination | Feline Leukemia Vx | Leukemia Test | Vx=Vaccination | | |

Treatment Release

I understand that failure to provide consent for medical care means that the doctors will use their best judgment and care will be rendered. Shelter staff provides emergency triage veterinary care for your pet's symptoms if they are ill, and will contact you with treatment options and estimate of costs. If an emergency proves serious enough to require transport to a veterinary hospital please indicate your wishes should your pet require further treatment to relieve immediate discomfort or to resolve an important medical condition:

____ Please perform the needed care until someone can be reached – this includes only emergency treatments and necessary diagnostics.

____ I authorize up to \$ _____ OR _____ I am unable to provide monetary support.

____ Do not administer any medical treatment until specific authorization is given unless the shelter is unable to reach me in a timely fashion. In such a case, I do hereby grant and authorize the shelter to treat or manage my animal(s) as judged appropriate by medical staff, as dictated by medical necessity. This includes euthanasia as a last resort to relieve animal suffering.

This shelter will close on _____ . You must retrieve your pet prior to that time.

You can come to the shelter to walk and care for your pet between _____ and _____ .
I have read and understand this agreement and certify that I am the owner/agent of the above listed animal(s).

Signature _____ Date _____


NOT Owned

Medical Record

NOT Rescued













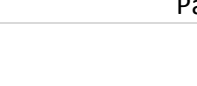



| | | | | | | | | | | | | | | | | | | | | | |
|-------------------------------------|------------|--------|--|--|--|--------------|------------------------------|--|-------------------------------|---|-------------------------------|---|------|--|-----------------------|--|--|--|--|--|--|
| Cage Number | | | | | Impound Number | | | | | | | | | | | | | | | | |
| Physical Exam | | | | | Initial Physical Exam Notes | | | | | | | | | | | | | | | | |
| Temp: | | | | | | | | | | | | | | | | | | | | | |
| Pulse: | | | | | | | | | | | | | | | | | | | | | |
| Resp: | | | | | | | | | | | | | | | | | | | | | |
| MB/CRT: | | | | | | | | | | | | | | | | | | | | | |
| Heart: | | | | | | | | | | | | | | | | | | | | | |
| Lungs: | | | | | | | | | | | | | | | | | | | | | |
| Eyes: | | | | | | | | | | | | | | | | | | | | | |
| Ears: | | | | | | | | | | | | | | | | | | | | | |
| Mouth: | | | | | | | | | | | | | | | | | | | | | |
| Skin: | | | | | Dr: | | | | | | | | | | | | | | | | |
| Pain: | | | | | | | | | | | | | | | | | | | | | |
| Microchip Information | | | | | Vaccinations Administered | | | | | | | | | | | | | | | | |
| <input type="checkbox"/> Implanted | | Number | | | <input type="checkbox"/> Dog | | <input type="checkbox"/> RAB | | <input type="checkbox"/> BORD | | <input type="checkbox"/> DAP+ | | | | | | | | | | |
| <input type="checkbox"/> None | | | | | <input type="checkbox"/> Cat | | <input type="checkbox"/> RAB | | <input type="checkbox"/> FVR+ | | | | | | | | | | | | |
| <input type="checkbox"/> Present | | | | | <input type="checkbox"/> Rabies Certificate Completed AND Placed in Record | | | | | | | | | | | | | | | | |
| Parasite Control | | | | | | | | | | <input type="checkbox"/> Endoparasite Control | | <input type="checkbox"/> Ectoparasite Control | | | | | | | | | |
| Shelter Medications and Care | | | | | Medical Record | | | | | | | | | | | | | | | | |
| Care/Meds | | | | | Time: | | am | | noon | | pm | | late | | Progress Notes | | | | | | |
| Date | Walk | | | | | | | | | | | | | | | | | | | | |
| | Urine | | | | | | | | | | | | | | | | | | | | |
| | Fecal | | | | | | | | | | | | | | | | | | | | |
| | Attitude | | | | | | | | | | | | | | | | | | | | |
| | Food/H2O | | | | | | | | | | | | | | | | | | | | |
| | Walk | | | | | | | | | | | | | | | | | | | | |
| | Urine | | | | | | | | | | | | | | | | | | | | |
| | Fecal | | | | | | | | | | | | | | | | | | | | |
| | Attitude | | | | | | | | | | | | | | | | | | | | |
| | Food/H2O | | | | | | | | | | | | | | | | | | | | |
| | Walk | | | | | | | | | | | | | | | | | | | | |
| | Urine | | | | | | | | | | | | | | | | | | | | |
| | Fecal | | | | | | | | | | | | | | | | | | | | |
| | Attitude | | | | | | | | | | | | | | | | | | | | |
| | Food/H2O | | | | | | | | | | | | | | | | | | | | |
| | Food Type: | | | | | Food Amount: | | | | | Food Notes: | | | | | | | | | | |

Appendix H – Cat Body Condition Score Chart




Nestlé PURINA

BODY CONDITION SYSTEM

| | | | | |
|-----------|--|--|---|--|
| TOO THIN | 1 | Ribs visible on shorthaired cats; no palpable fat; severe abdominal tuck; lumbar vertebrae and wings of ilia easily palpated. | } |   1 |
| | 2 | Ribs easily visible on shorthaired cats; lumbar vertebrae obvious with minimal muscle mass; pronounced abdominal tuck; no palpable fat. | |   3 |
| | 3 | Ribs easily palpable with minimal fat covering; lumbar vertebrae obvious; obvious waist behind ribs; minimal abdominal fat. | |   5 |
| | 4 | Ribs palpable with minimal fat covering; noticeable waist behind ribs; slight abdominal tuck; abdominal fat pad absent. | |   7 |
| IDEAL | 5 | Well-proportioned; observe waist behind ribs; ribs palpable with slight fat covering; abdominal fat pad minimal. | } |   9 |
| TOO HEAVY | 6 | Ribs palpable with slight excess fat covering; waist and abdominal fat pad distinguishable but not obvious; abdominal tuck absent. | } |   9 |
| | 7 | Ribs not easily palpated with moderate fat covering; waist poorly discernible; obvious rounding of abdomen; moderate abdominal fat pad. | |   9 |
| | 8 | Ribs not palpable with excess fat covering; waist absent; obvious rounding of abdomen with prominent abdominal fat pad; fat deposits present over lumbar area. | |   9 |
| 9 | Ribs not palpable under heavy fat cover; heavy fat deposits over lumbar area, face and limbs; distention of abdomen with no waist; extensive abdominal fat deposits. | | | 9 |

Call 1-800-222-VETS (8387), weekdays, 8:00 a.m. to 4:30 p.m. CT


Nestlé PURINA

Reprinted with permission from Nestle Purina.

Appendix I – Dog Body Condition Score Chart

BODY CONDITION SYSTEM

| | | | |
|-----------|---|---|------------------------------|
| TOO THIN | 1 | Ribs, lumbar vertebrae, pelvic bones and all bony prominences evident from a distance. No discernible body fat. Obvious loss of muscle mass. | |
| | 2 | Ribs, lumbar vertebrae and pelvic bones easily visible. No palpable fat. Some evidence of other bony prominence. Minimal loss of muscle mass. | |
| | 3 | Ribs easily palpated and may be visible with no palpable fat. Tops of lumbar vertebrae visible. Pelvic bones becoming prominent. Obvious waist and abdominal tuck. | |
| IDEAL | 4 | Ribs easily palpable, with minimal fat covering. Waist easily noted, viewed from above. Abdominal tuck evident. | |
| | 5 | Ribs palpable without excess fat covering. Waist observed behind ribs when viewed from above. Abdomen tucked up when viewed from side. | |
| TOO HEAVY | 6 | Ribs palpable with slight excess fat covering. Waist is discernible viewed from above but is not prominent. Abdominal tuck apparent. | |
| | 7 | Ribs palpable with difficulty; heavy fat cover. Noticeable fat deposits over lumbar area and base of tail. Waist absent or barely visible. Abdominal tuck may be present. | |
| | 8 | Ribs not palpable under very heavy fat cover, or palpable only with significant pressure. Heavy fat deposits over lumbar area and base of tail. Waist absent. No abdominal tuck. Obvious abdominal distention may be present. | |
| | 9 | Massive fat deposits over thorax, spine and base of tail. Waist and abdominal tuck absent. Fat deposits on neck and limbs. Obvious abdominal distention. | |
| | | | |

The BODY CONDITION SYSTEM was developed at the Nestlé Purina Pet Care Center and has been validated as documented in the following publications:

Mowby D, Bartsch JW, Moyers T, et al. Comparison of body fat estimates by dual-energy x-ray absorptiometry and deuterium oxide dilution in client owned dogs. *Compendium* 2001; 23 (9A): 70

Lafamme DP. Development and Validation of a Body Condition Score System for Dogs. *Canine Practice* July/August 1997; 22:10-15

Kealy, et al. Effects of Diet Restriction on Life Span and Age-Related Changes in Dogs. *JAVMA* 2002; 220:1315-1320

Call 1-800-222-VETS (8387), weekdays, 8:00 a.m. to 4:30 p.m. CT

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Appendix J –Aging Dentition Guidelines

Table 4 - Aging Canines based on eruption of deciduous and permanent teeth

| Teeth | Deciduous (weeks) | Permanent (months) |
|------------|-------------------|--------------------|
| Incisor 1 | 4-5 | 4-5 |
| Incisor 2 | 4-5 | 4-5 |
| Incisor 3 | 5-6 | 4-5 |
| Canine | 3-4 | 5-6 |
| Premolar 1 | - | 4-5 |
| Premolar 2 | - | 5-6 |
| Premolar 3 | - | 5-6 |
| Premolar 4 | - | 5-6 |
| Molar 1 | 4-6 | 4-5 |
| Molar 2 | 4-6 | 5-6 |
| Molar 3 | 6-8 | 6-7 |

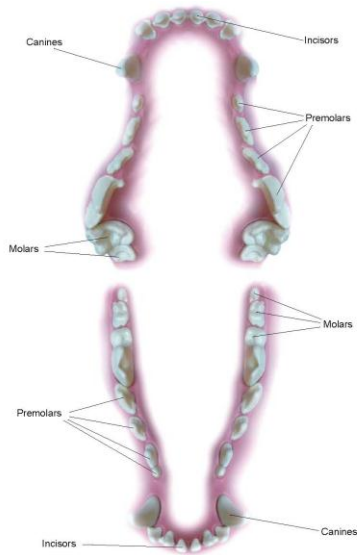


Figure 4- Adult Canine Dental Chart (Courtesy of Jan Bellows, DVM, DABVP, DAVDC)

Table 5 - Aging feline teeth by eruption of deciduous and permanent teeth

| Teeth | Deciduous (weeks) | Permanent (months) |
|-----------|-------------------|--------------------|
| Incisor 1 | 2-3 | 3 ½ - 4 |
| Incisor 2 | 4-5 | 3 ½ - 4 |

| | | |
|------------|------|----------|
| Incisor 3 | 5-6 | 4 – 4 ½ |
| Canine | 3-4 | 5 |
| Premolar 1 | - | - |
| Premolar 2 | - | 4 ½ - 5* |
| Premolar 3 | - | 5-6 |
| Premolar 4 | - | 5-6 |
| Molar 1 | - | 4-5 |
| Molar 2 | 4-5* | - |
| Molar 3 | 4-6 | - |

*Upper teeth only

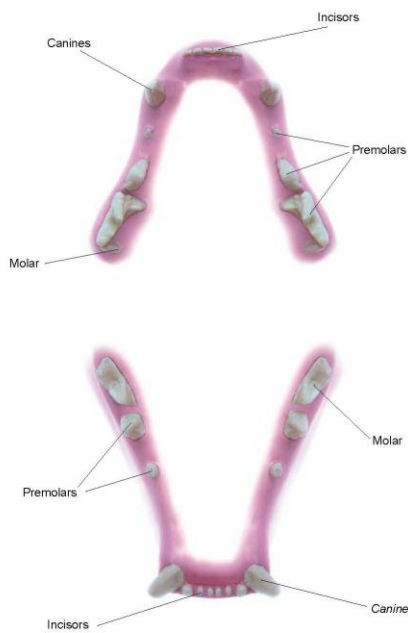


Figure 5- Adult Feline Dental Chart (Courtesy of Jan Bellows, DVM, DABVP, DAVDC)

Appendix K – 2010 WSAVA Vaccination Guidelines Group (VGG)

Frequently Asked Questions (FAQ) on Vaccines³⁵

QUESTIONS RELATED TO VACCINE PRODUCTS

1. May I give a MLV product to a wild, exotic species or to a domestic species other than to the ones which the vaccine was licensed to protect?

No, never give MLV vaccines unless they have been shown to be safe in that species. Many MLV vaccines have caused disease in animal species other than those for which they had been licensed. Even worse: the vaccine could be shed from the wild animals, regain virulence through multiple passages and cause disease even in the target species for which it had been developed. The consequences could be catastrophic!

A highly effective and very safe vaccine for species that are susceptible to CDV is a canary poxvirus-vectored recombinant CDV vaccine that is available as a monovalent product for ferrets or a combination product for dogs. The monovalent vaccine is being used in many wild and exotic species susceptible to CDV, but is only available in certain countries.

2. May I vaccinate a puppy that is at high risk of getting CDV with a human measles vaccine?

No. Due to an insufficient amount of virus, the human MV vaccine is not immunogenic in the puppy. Measles virus vaccines made specifically for the dog (sometimes combined with CDV and additional viral components) will give temporary protection at an earlier age than a CDV vaccine. At 16 weeks or older, the puppy must be vaccinated with a CDV vaccine, to achieve permanent immunity.

3. Can certain vaccines immunize pups having maternally derived antibody (MDA) against CDV at an earlier age than the conventional MLV CDV vaccines?

Yes. The heterotypic measles vaccine for dogs will immunize pups about 4 weeks earlier than the MLV-CDV vaccines. Similarly, the canary pox vectored recombinant CDV vaccine will immunize approximately 4 weeks earlier than the MLV vaccines.

4. I know that maternally derived antibodies (MDA) can prevent active immunization with MLV vaccines - but can they also block immunity to killed vaccines?

Yes. MDA can indeed block certain killed vaccines. If the killed product requires two doses, as is often the case, and the first dose is blocked by MDA, then the second dose will not immunize. In this circumstance, the second dose will prime (if not blocked), and a third dose is required to immunize and boost.

³⁵ Journal of Small Animal Practice • Vol. 51 • June 2010 • © 2010 WSAVA

This is not true for MLV, where - in the absence of MDA - it only takes a single dose to prime, immunize, and boost. Nevertheless two doses are often recommended, particularly in young animals, to be sure one is given when MDA cannot block. That is why in the puppy or kitten series, the last dose should be given at around 16 weeks of age or later.

5. I have been told that certain canine MLV combination core products need only be given twice, with the last dose at an age as young as 10 weeks. Is that accurate?

The VGG is aware that certain canine vaccines are licensed for such an 'early finish' in order to allow pups the benefit of early socialization. The VGG accepts the behavioral benefits of this practice but has reservations about its immunological validity. No combination core product currently available will immunize an **acceptable percentage** of puppies when the last dose is given at 10 weeks of age. The VGG advises that wherever possible the last dose should be given at around 16 weeks of age, regardless of the number of doses given earlier. Where the 'early finish' protocol is adopted, the VGG recommends that owners carefully control the exposure of their pup to restricted environments and only permit contact with healthy and fully vaccinated puppies.

6. May I give the same type of vaccine parenterally and intranasally, for example the canine and feline vaccines used to prevent respiratory diseases ('kennel cough' and feline upper respiratory disease)?

Yes. However, you should be sure to give the product approved for that route. If you use the parenteral MLV vaccines containing FCV and FHV-1 locally, you could cause disease in the cat. If you use the killed FCV and FHV-1 vaccines locally, you would not get any immunity and might cause significant adverse reactions. If you gave the intranasal live 'kennel cough' vaccine parenterally, you could cause a severe necrotizing local reaction and even kill the dog, whereas giving the parenteral killed *Bordetella* vaccine intranasally will not immunize and may cause a hypersensitivity reaction.

However, both types of products can be given at the same time or at various times in the life of the animal. Vaccinating both parenterally and intranasally may actually provide better immunity than vaccinating at only one site. Thus parenteral vaccination provides protection in the lung but little or no immunity in the upper respiratory tract (especially local secretory IgA and CMI), whereas intranasal vaccination will engender good secretory IgA and local CMI and non-specific immunity (e.g. type I interferons), but will not always provide immunity in the lung.

7. How long after vaccination does it take for the dog to develop immunity that will prevent severe disease when the core vaccines are used?

This is dependent on the animal, the vaccine and the disease.

- The fastest immunity is provided by CDV vaccines – MLV and recombinant canary pox virus vectored. The immune response starts within minutes to hours

and provides protection within a day to animals without interfering levels of MDA and dogs that are not severely immunosuppressed.

- Immunity to CPV-2 and FPV develops after as few as 3 days and is usually present by 5 days when an effective MLV vaccine is used. In contrast, the killed CPV-2 and FPV vaccines often take 2 to 3 weeks or longer to provide protective immunity.
- CAV-2 MLV given parenterally would provide immunity against CAV-1 in 5–7 days. However, when given intranasally the same level of immunity to CAV-1 is not present until after 2 or more weeks and in some dogs it doesn't develop. Thus parenteral CAV-2 is recommended for immunity to CAV-1.
- Time from vaccination to immunity is difficult to determine for FCV and FHV-1 because some animals will not develop protective immunity. However, when it does develop, it takes 7–14 days.

8. What can I expect from the core vaccines in terms of efficacy in the properly vaccinated puppy/dog and kitten/cat?

- Dogs properly vaccinated with MLV or recombinant CDV, CPV-2 and CAV-2 would have $\geq 98\%$ protection from disease. Similarly we would expect a very high protection from infection.
- For the properly vaccinated cat that had received MLV vaccines, we would estimate that $\geq 98\%$ would be protected from disease and infection with FPV.
- In contrast, we can expect FCV and FHV-1 vaccines, at best, to protect from disease, not infection, especially in a highly contaminated environment (e.g. shelter) and protection would be seen in 60 to 70% in a high risk environment. Protection would appear to be much higher in the household pet cat isolated from other cats or with cats that have been vaccinated and in the household for a long time because the risk for infection with the viruses is so much lower, as is the stress level.

9. Are there mutants (biotypes or variants) of CDV or CPV-2 in the field that the current vaccines cannot provide protective immunity against?

No. All of the current CDV and CPV-2 vaccines provide protection from all the known isolates of CDV or CPV-2, respectively, when tested experimentally as well as in the field.

10. Do the current CPV-2 vaccines provide protection from disease caused by the new variant CPV-2c? How long does the protection last?

Yes. The CPV-2 vaccines, regardless of what variant they contain, stimulate an active immune response (e.g. antibody response), that provides long term (4 or more years) protection from all current CPV-2 variants (2a, 2b, and 2c) when the dogs are challenged.

11. Can parvovirus vaccines (e.g. canine parvovirus-2 and feline parvovirus (panleukopenia)) be administered orally?

No. CPV-2 and FPV vaccines, when given orally, will not immunize. They will immunize when given intranasally, however the most effective route is parenteral (subcutaneous or intramuscular) vaccination.

12. Can certain CPV-2 vaccines immunize pups with MDA at an earlier age than other CPV-2 vaccines?

Yes. Certain CPV-2 vaccines with higher viral titers and/or with more immunogenic isolates (regardless of variant) will immunize a few weeks (e.g. 2 weeks) earlier than other CPV-2 vaccines.

13. Are serum antibody titers useful in determining vaccine immunity?

Yes. This is particularly the case for CDV, CPV-2 and CAV-1 in the dog, FPV in the cat and rabies virus in the cat and dog. Serum antibody titers are of limited or no value for the other vaccines. Assays for CMI are of little or no value for any of the vaccines for various technical and biological reasons. Such factors are less of an issue for serological tests where it is much easier to control many of the variables. However, discrepant results are still obtained, depending on the quality assurance program of the given laboratory.

14. When a *Leptospira* vaccine (bacterin) is used, should it be a product with two serovars or one with more than two serovars (e.g. four serovars)?

When a *Leptospira* vaccine is used in high risk dogs, the commercial vaccine that contains all the serovars that cause disease in the dog in that region, if available, should be used. Always use a product that provides protection against all the important serovars.

In the United States, the four serovars responsible for most, if not all, cases of leptospirosis are canicola, icterohaemorrhagiae, pomona and grippityphosa. Therefore, the four component product is recommended. In many other countries there is insufficient knowledge of which serovars are circulating in the canine population. The VGG would encourage collection of such data.

15. Do *Leptospira* vaccines give long term (e.g. years) immunity and are they highly effective, like the core viral vaccines?

No. *Leptospira* vaccines provide short-term immunity (e.g. 3–12 months) and the efficacy is often less than 70%. Also *Leptospira* products often prevent clinical disease but fail to protect against infection and shedding of the bacteria, especially when infection occurs more than 6 months after vaccination. The immunity among the serovars varies and immunity varies among vaccinated dogs. Persistence of antibody after vaccination will often be only a few months and immunological memory for protective immunity is short (e.g. 1 year or less). Thus, revaccination may be required as often as every 6–9 months for dogs at high risk.

16. Do any feline leukemia virus vaccines (e.g. killed adjuvanted, subunit, recombinant) provide protection with only one dose of vaccine?

No. All feline leukemia virus vaccines require a minimum of two doses of vaccine. The two doses should preferably be given 2–4 weeks apart, starting at 8 weeks of age or older. Only after that initial series of two vaccines can you then give a single dose to boost the response. When the interval between the initial two doses exceeds 6 weeks or more, it is recommended that the cat be revaccinated, making certain that two doses be given at an interval of 2–4 weeks.

17. Do cats need to be revaccinated with FeLV vaccines more often than every 3 years after they have received the kitten vaccine and a booster at one year?

No. Revaccination more often than every 3 or more years is not necessary and annual revaccination can increase the development of injection site sarcomas, when adjuvanted vaccines are used.

18. Why don't I have the FIV vaccine in my country?

The availability of vaccines is generally determined by the manufacturer and the local or regional licensing authority on the basis of scientific knowledge pertaining to the local disease situation (and marketing considerations). The current FIV vaccine contains two clades (subtypes) of FIV (A and D) and although cross-protection against other clades is claimed there are geographical differences in the clades of virus circulating in a particular country. There also remain issues with the potential for this vaccine to interfere with serodiagnostic testing for FIV infection. Cats given FIV vaccine should be tested for serum antibody before vaccination and identified with a microchip.

19. Can a microchipped cat vaccinated with FIV vaccine be infected with FIV?

Yes. Vaccine will not prevent infection and latency for all subtypes of FIV, thus FIV vaccinated cats can also be infected and act as a source of virus for susceptible cats.

20. Will the current 'kennel cough' vaccines provide any protection from disease caused by the new canine influenza virus (CIV)?

No. The racing greyhounds that have been found infected and that developed disease had been routinely vaccinated 3 or more times a year with commercial 'kennel cough' vaccines. CIV is antigenically unrelated to any other virus of dogs, but related to Equine Influenza Virus (H3N8). A new CIV vaccine has been conditionally licensed in the USA and is recommended for at-risk dogs.

21. Is there a vaccine available to aid in the prevention of disease caused by canine influenza virus (CIV)?

Yes. There is a new vaccine recently licensed (conditionally) in the USA that is designed to aid in the prevention of influenza in dogs caused by the H3N8 virus. The product is an adjuvanted killed vaccine that, like all killed vaccines, requires two initial doses given 2–4 weeks apart. The efficacy and duration of immunity of this CIV vaccine or others that may be developed in the future will be determined in the next few years as information accumulates in the field.

22. Are there vaccines available for dogs and/or cats that are not designed to prevent infectious diseases caused by viruses, bacteria, fungi/yeasts and/or parasites?

Yes. There are vaccines that are used to prevent conception, and to aid in the prevention of death from snakebites with certain species of snakes, and to aid in the treatment of melanomas in dogs. Furthermore, additional canine and feline vaccines are being developed that are not designed to prevent infectious diseases.

23. Can nosodes (holistic preparations) be used to immunize pets?

No. Nosodes cannot be used for the prevention of any disease. They do not immunize because they do not contain antigen.

QUESTIONS RELATED TO VACCINATION PROCEDURE

24. May I mix different types of vaccines in the syringe?

No. One should never mix different vaccine preparations in the syringe unless specified by the data sheet.

25. May I co-inject different vaccines (not part of a single commercial product) into the same animal?

Yes. However, different vaccines should be injected into separate sites that are drained by different lymph nodes.

26. May I use smaller vaccine doses in small breeds to reduce the risk of adverse reactions?

No. The volume (e.g. 1.0 ml) as recommended by the manufacturer generally represents the minimum immunizing dose, therefore the total amount must be given.

27. Should the large dog (Great Dane) be injected with the same volume of vaccine as the small dog (Chihuahua)?

Yes. Unlike pharmaceuticals that are dose-dependent, vaccines are not based on volume per body mass (size), but rather on the minimum immunizing dose.

28. May I vaccinate the anaesthetized patient?

It is best not to do this if possible as the patient may develop a hypersensitivity reaction and vomit, leading to an increased risk of aspiration. Also, anesthetic agents may be immunomodulatory.

29. May I vaccinate pregnant pets?

No. Vaccination with MLV and killed products during pregnancy should be avoided, if at all possible. There are exceptions, especially in shelters, where vaccination would be advised if the pregnant animal has never been vaccinated and there is an outbreak of disease (e.g. CDV or FPV).

30. Does immunosuppressive glucocorticoid treatment in the cat or dog interfere with core vaccine immunity during the primary or secondary (booster) vaccination programs?

Studies of both species suggest that immunosuppressive glucocorticoid treatment prior to or concurrently with vaccination does not have a significant suppressive effect on antibody production to the vaccines. However, revaccination is recommended several weeks (2 or more) after glucocorticoid therapy has ended, especially when treatment occurred during administration of the initial series of core vaccines.

31. May I vaccinate pets that are on immunosuppressive or cytotoxic therapy (other than glucocorticoids) (e.g. for cancer or autoimmune diseases)?

No. Vaccination especially with MLV products should be avoided as they may cause disease; vaccination with killed products may not be effective or may aggravate the immune-mediated disease.

32. How long after stopping immunosuppressive therapy do I wait before revaccinating a pet?

A minimum of 2 weeks.

33. May I vaccinate every week if an animal is at high risk of disease?

No. Vaccines should not be given more often than every other week, even when different vaccines are being given.

34. When should the last vaccine dose be given in the puppy and kitten vaccine series?

The last dose of vaccine should be given at 14–16 weeks of age or older.

35. May I inject a killed vaccine, followed at a later time with a MLV for the same disease?

No. The killed vaccine may induce an effective antibody response that will neutralize the MLV in the vaccine, thereby preventing immunization. It would be preferable to give the MLV vaccine first and if/when needed, revaccinate with the killed vaccine preparation.

36. May I inject a modified live intranasal *Bordetella* vaccine?

No. The vaccine can cause a severe local reaction and may even kill the pet by causing systemic disease (e.g. liver failure).

37. May I give a killed *Bordetella* vaccine destined for parenteral use intranasally?

No. This will not stimulate a protective response to the *Bordetella*, but may cause a hypersensitivity response; you should give a live vaccine via the intranasal route, as specified by the data sheet.

38. Are precautions necessary when using MLV FHV-1/FCV parenteral vaccines in cats?

Yes. Mucosal (e.g. conjunctival and nasal) contact with the preparation must be avoided, because the vaccine virus can cause disease.

39. May I use different vaccine brands (manufacturers) during the vaccination program?

Yes. It may even be desirable to use vaccines from different manufacturers during the life of an animal, because different products may contain different strains (e.g. of feline calicivirus).

40. Should I use a disinfectant (e.g. alcohol) on the injection site?

No. The disinfectant might inactivate an MLV product and it is not known to provide a benefit.

41. May I split vaccines in combination products?

Yes. For example, *Leptospira* bacterins are often used as the diluent for the viral antigen combination. The 'viral cake' may be resuspended in sterile water or buffered saline, and the *Leptospira* bacterin be given separately at another site or time, or discarded.

42. Will a single vaccine dose provide any benefit to the dog or cat? Will it benefit the canine and feline populations?

Yes. One dose of a MLV canine core vaccine (CDV, CPV-2 CAV-2) or a feline core vaccine (FPV, FCV, FHV-1) should provide long term immunity when given to animals at or after 16 weeks of age. Every puppy and kitten 16 weeks of age or older must receive at least one dose of the MLV core vaccines.

If that were done, herd (population) immunity would be significantly improved. Even in the USA with its good vaccination record, probably <50% of all puppies and <25% of all kittens ever receive a vaccine. We must vaccinate more animals in the population with core vaccines to achieve herd immunity (e.g. 75% or higher) and prevent epidemic outbreaks.

43. When an animal first receives a vaccine that requires two doses to immunize (e.g. killed vaccines like *Leptospira* bacterins or feline leukemia virus), and it does not return for the second dose within ≤6 weeks, is there any immunity?

No. A single dose of a two-dose vaccine does not provide immunity. The first dose is for priming the immune system, the second for immunizing. If a second dose is not given within 6 weeks of the first, the regime should start again, making sure the two doses are given within 2–6 weeks. After those two doses, revaccination with a single dose can be done at yearly or greater intervals to boost the response.

44. For how long can a reconstituted MLV vaccine sit at room temperature without losing activity?

At room temperature, some of the more sensitive vaccines (e.g. CDV, FHV-1) will lose their ability to immunize in 2–3 hours, whereas other components will remain immunogenic for several days (e.g. CPV, FPV). The VGG recommends that MLV vaccines, after being reconstituted, should be used within 1–2 hrs.

45. If an animal has gone beyond the time that is generally considered to be the minimum DOI for the core vaccine (7 to 9 years for CDV, CPV-2, CAV-2; 7 years for FPV, FCV, FHV-1), do I have to start the series of vaccinations again (multiple doses 2–4 weeks apart)?

No. For MLV vaccines, multiple doses are only required at the puppy or kitten age, when an animal has MDA. The VGG is aware that many data sheets do advise re-starting a vaccination series, but does not endorse this practice which is inconsistent with fundamental immune system function and the principles of immunological memory.

46. Should I vaccinate a cat infected with FeLV and/or FIV infection?

A FeLV or FIV positive cat that is clinically well would ideally be housed indoors away from other cats to minimize the risk of exposure to infectious disease. However, if it were deemed necessary to vaccinate with core components (FPV, FCV and FHV-1) this should be done with killed (not MLV) vaccines. Such cats should not be vaccinated against FeLV or FIV. A FeLV or FIV positive cat with clinical illness should not be vaccinated. In some countries there is a legal requirement for rabies vaccination that would also include infected cats.

47. Where should I inject vaccine into a cat?

Feline vaccines (particularly adjuvanted products) should not be given into the interscapular region. In the USA the practice of giving separate injections of rabies vaccine into the distal right hind limb and FeLV vaccine into the distal left hind limb has been practiced. Alternative sites for subcutaneous injection are over the lateral thoracic or abdominal wall. Of these, the abdominal wall represents the site from which an injection site sarcoma is most readily resected surgically and is the site recommended by the VGG. Whichever site is chosen, the vaccine must be administered subcutaneously and not intramuscularly. Importantly, the anatomical site of feline vaccination should be rotated so that vaccines are not given repeatedly to one location. This may be achieved by recording the site of vaccination for each individual on each occasion and rotating between these, or by adopting a practice policy to use one anatomical location each year.

48. Does severe nutritional deficiency affect the immune response to vaccines?

Yes. It has been shown that certain severe deficiencies of vitamins and trace minerals (e.g. Vitamin E/Se) can interfere with the development of a protective immune response in puppies. Known or suspected nutritional deficiencies should be corrected by

appropriate nutritional supplementation and the animals should be revaccinated to ensure there is adequate protective immunity.

49. If a puppy or kitten fails to receive colostrum will they have any passive antibody protection from the dam?

Depending on the antibody titre of the dam they will have little or, most likely, no protection as approximately 95% or more of the passive antibody for the newborn puppy and kitten is obtained from the colostrum which is absorbed via the intestine into systemic circulation for up to 72 hours after birth.

50. Should a puppy or kitten that fails to receive colostrum be vaccinated during the first few weeks of life since they will not have maternally derived antibody to block active immunization?

No. Puppies and kittens less than 4–6 weeks of age should not be vaccinated with the MLV core vaccines. Certain of the modified live vaccine viruses when given to pups/kittens less than 2 weeks of age and without MDA can infect the central nervous system and/or cause disease and possibly death of the animal. This occurs because there is little or no thermoregulatory control of body temperature during the first week or more after birth, thus innate and adaptive immunity is significantly impaired.

51. How can these colostrum-deprived young animals be protected from the core diseases?

Artificial colostrum can be fed if the puppy or kitten is less than 3 days old and has never been fed a protein diet. Artificial colostrum (AC) is 50% milk replacer (e.g. Esbilac™ or other similar product) and 50% immune serum (preferably from the dam or other well vaccinated animal living in the same environment as the dam). If pups or kittens have received protein (e.g. milk replacer) orally or are 3 days of age or older, serum from a well immunized adult animal can be given subcutaneously or intraperitoneally or citrated plasma can be given intravenously. Depending on size of the animal, approximately 3 to 10 ml of serum or plasma should be administered twice daily for up to 3 days.

QUESTIONS RELATED TO ADVERSE REACTIONS TO VACCINES

52. Is there a risk of over-vaccinating a pet (e.g. injecting it too often, or using vaccines that are not required for the specific pet)?

Yes. Vaccines should not be given needlessly, as they may cause adverse reactions. Vaccines are medical products that should be tailored to the needs of the individual animal. Also, when administering bacterins it is advisable to give them at separate times rather than giving them together.

53. Are certain vaccines or combinations of vaccines more likely to cause adverse reactions than others?

Yes. Although the development of an adverse reaction is often dependent on the genetics of the animal (e.g. small breed dogs or families of dogs), certain vaccines have a higher likelihood of producing adverse reactions, especially reactions caused by Type I hypersensitivity. For example, bacterins (killed bacterial vaccines), such as *Leptospira*, *Bordetella*, *Borrelia* and *Chlamydoghila* are more likely to cause these adverse reactions than MLV viral vaccines.

54. Should dogs and cats with a history of adverse reaction or immune-mediated diseases (hives, facial edema, anaphylaxis, injection site sarcoma, autoimmune disease etc.) be vaccinated?

If the vaccine suggested to cause the adverse reaction is a core vaccine, a serological test can be performed and if the animal is found to be seropositive (antibody to CDV, CPV-2, FPV) revaccination is not necessary. If the vaccine is an optional non-core vaccine (e.g. *Leptospira* or *Bordetella* bacterin) revaccination is discouraged. For rabies, the local authorities must be consulted to determine whether the rabies vaccine is to be administered by law or whether antibody titer may be determined as an alternative. If vaccination is absolutely necessary then switching product (manufacturer) may be helpful. Hypersensitivity reactions are known to be related to excipients contained within the vaccine (e.g. traces of bovine serum albumin used in the virus culture process). The use of antihistamines pre-revaccination is acceptable and does not interfere with the vaccinal immune response. Revaccinated susceptible animals should be closely monitored for up to 24 hours post-vaccination although such reactions (Type 1 hypersensitivity) generally occur within minutes of exposure. Other types of hypersensitivity (II, III, IV) can occur much later (e.g. hours to months).

55. Can vaccines cause autoimmune diseases?

Vaccines themselves do not cause autoimmune disease, but in genetically predisposed animals they may trigger autoimmune responses followed by disease – as can any infection, drug, or a variety of other environmental factors.

56. How common are adverse reactions to vaccines?

There is no definitive answer to this question as it is difficult to obtain accurate data. Determining the frequency of adverse reactions relies upon the veterinarian or owner reporting such reactions to the manufacturer or national authority (where such routes exist). It is currently accepted that the vaccines that we use are very safe with a very low incidence of possible side effects. The benefits of protection from serious infectious disease far outweigh the risks of developing an adverse reaction. Recent analysis of a major US hospital group database has allowed publication of data based on very large numbers of vaccinated dogs and cats. Adverse reactions (of any kind, including very minor reactions) were documented within the first 3 days following vaccination in 38 of 10,000 vaccinated dogs. Adverse reactions (of any kind, including very minor reactions)

were documented within the first 30 days following vaccination in 52 of 10,000 vaccinated cats. However, many other animals had reactions that were not reported to the practice, but were reported to other practices or emergency practices where the animal was seen. Some breeds and families of pets will have a much higher evidence of adverse reactions than the general population of animals.

57. Are there dogs and cats that cannot develop an immune response to vaccines?

Yes. This is a genetic characteristic seen particularly in some breeds, and these animals are called 'non-responders'. Genetically related (same family or same breed) animals will often share this non-responsiveness. If the animal is a non-responder to a highly pathogenic agent, like canine parvovirus or feline panleukopenia virus, the infected animal may die if infected. If it is a nonresponder to a pathogen that rarely causes death, it may become sick but will survive (e.g. after a *Bordetella bronchiseptica* infection).

58. Do puppies develop immunosuppression after the initial series of core vaccines?

Yes. If a combination product containing MLV-CDV and MLV-CAV-2 with other components is used, a period of immunosuppression lasting approximately 1 week develops, beginning 3 days after vaccination. If the combination vaccine does not contain either MLV-CDV or MLV-CAV-2, then such suppression does not occur.

59. What can be done to avoid the immunosuppression in puppies, as all should receive the core vaccines (CDV, CPV-2, CAV-2)?

The puppies could receive a bivalent vaccine containing CDV and CPV-2 parenterally and the CAV-2 could be given later or given intranasally as part of a vaccine for kennel cough that also contains *B. bronchiseptica* and canine parainfluenza. You could also use a combination vaccine containing canary pox vectored CDV and MLV CPV-2 and CAV-2 vaccines, as this combination does not cause immunosuppression.

60. Is the immune response to *Leptospira* responsible for causing a hypersensitivity response in certain dogs also short lived (e.g. <1 year), like immunity from infection?

No. Unlike immunity and IgG memory, which are relatively short lived (≤ 1 year), memory for immediate hypersensitivity, as determined by skin testing, is long lived (≥ 4 years).

Appendix L – Rabies Certificate Example

| | | | | | | | |
|---|--------|--|---------------------------------------|--|----------------------------|---------------------------|-----------------------------|
| Push to Print Form | | RABIES VACCINATION CERTIFICATE NASPHV FORM 51 (revised 2007) | | | | Push to Reset Form | |
| Owner's Name & Address Print Clearly | | | | | RABIES TAG # | | |
| | | | | | MICROCHIP # | | |
| LAST | FIRST | M.I. | TELEPHONE # | | | | |
| NO. | STREET | | CITY | STATE | ZIP | | |
| SPECIES | | AGE | | SIZE | | PREDOMINANT BREED | PREDOMINANT COLORS/MARKINGS |
| Dog <input type="checkbox"/> | | Months <input type="checkbox"/> | | Under 20 lbs. <input type="checkbox"/> | | _____ | _____ |
| Cat <input type="checkbox"/> | | Years <input type="checkbox"/> | | 20 - 50 lbs. <input type="checkbox"/> | | | |
| Ferret <input type="checkbox"/> | | SEX <input type="checkbox"/> Male | | Over 50 lbs. <input type="checkbox"/> | | ANIMAL NAME | _____ |
| Other: <input type="checkbox"/> (specify) | | <input type="checkbox"/> Female | | | | | |
| | | <input type="checkbox"/> Neutered | | | | _____ | _____ |
| Animal Control License | | <input type="checkbox"/> 1 Yr | <input type="checkbox"/> 3 Yr | Other _____ | | | |
| DATE VACCINATED | | Product Name: _____ | | | Veterinarian's Name: _____ | | |
| _____ | | Manufacturer: <input type="text"/> <input type="text"/> <input type="text"/> | | | License Number: _____ | | |
| Month / Day / Year | | (First 3 letters) | | | _____ | | |
| NEXT VACCINATION DUE BY: | | <input type="checkbox"/> 1 Yr USDA Licensed Vaccine | Veterinarian's Signature _____ | | | | |
| _____ | | <input type="checkbox"/> 3 Yr USDA Licensed Vaccine | Address: _____ | | | | |
| Month / Day / Year | | <input type="checkbox"/> 4 Yr USDA Licensed Vaccine | _____ | | | | |
| | | <input type="checkbox"/> Initial dose | <input type="checkbox"/> Booster dose | _____ | | | |
| | | Vaccine Serial (lot) Number _____ | | | | | |

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A writable PDF form is available at: <http://nasphv.org/Documents/RabiesVacCert.pdf>.

Appendix M – Adverse Event Report

Adverse Event Report

Pharmacovigilance
 United States Department of Agriculture
 Center for Veterinary Biologics
 1920 Dayton Avenue
 Ames, IA 50010
 Phone: (515)337-6100 FAX: (515)337-6120

*Required Fields

Product information

List ALL immunobiological products used.

| *Brand Name or Generic Name | *U.S. Vet. License (Est. No.) or Manufacturer Name | Serial (lot) Number | Type of Product ¹ |
|-----------------------------|--|---------------------|------------------------------|
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |

1. Type of Product (select one for each product) = Viral, Bacterial, Combination, Antibody, Coccidia, Immunomodulator, Protozoa, Recombinant, Rickettsia, Other, or Do Not Know.

Administration of products

| Dose | Route | Site | Needle Size | Date Reconstituted |
|---------------------------------|-------|------|------------------------------------|--------------------|
| 1 | | | | |
| 2 | | | | |
| 3 | | | | |
| 4 | | | | |
| Administered by: ² | | | *Date of Product Use (MM/DD/YYYY): | |
| Concurrent Drugs or Procedures: | | | | |

2. Administered by (select one) = Veterinarian or Veterinary staff or Nonveterinarian

Event Information

*Event description:³

Explain the event description and treatment in a concise paragraph:

3. Event description (select one) = Anaphylaxis-hypersensitivity, autoimmune, birth defect, lack of expected efficacy, local, neoplasia, reproductive, systemic, other

Onset (How long after product use did the event begin?) :
 (Specify whether units are in mins, hrs, days, wks, mos, yrs)

| | |
|---|--|
| Attending veterinarian's level of suspicion that product caused event: High Medium Low Not Listed | *Outcome: (Select One) Recovered without treatment Recovered with treatment Did not recover Died Other |
|---|--|

Animal Information

| | | |
|--|--------------------------|-----------------------------|
| Case identification number: | | |
| *Species ⁴ | Breed: | Age (i.e., 2 yrs or 2 mos): |
| Sex: _____ For animals handled in a group (herd, litter, etc) (male, female , not listed) | | |
| Neutered: (yes, no, not listed) | Number in group: _____ | Number affected: _____ |
| | Number vaccinated: _____ | Number dead: _____ |

4. Species (Select One) = Porcine, Bovine, Canine, Feline, Ferret, Ovine, Caprine, Equine, Exotic, Fish, Poultry, or Other

| |
|---|
| History and Environment (e.g., acquisition, vaccination, and medical histories; housing, diet, contacts, etc) |
|---|

Personal Information

| Veterinarian | Owner |
|--------------------------|--------------------------|
| *Name: | Name: |
| Address: | Address: |
| City: _____ State: _____ | City: _____ State: _____ |
| Zip: _____ | Zip: _____ |
| *Phone: _____ FAX: _____ | Phone: _____ |
| E-mail: _____ | E-mail: _____ |

Submitter's Information

| | |
|--|-------------------------|
| This event has been reported to the manufacturer(s): (Select one) = yes or no | |
| *Submitter's first name: | *Submitter's last name: |
| *Submitter's phone number: | * Today's Date: |
| Relationship to animal: ⁵ | |

5. Relationship to animal (select one) = veterinarian, owner, other, not listed

For internal use:

| | |
|--------------|-------------------|
| Product Code | Other comment(s): |
| 1. | |
| 2. | |
| 3. | |
| 4. | |

Appendix N – Example of (Disaster) Euthanasia Forms

[Contact Identification for Shelter]
[name address and phone of client]
[description of animal]
[date]

I, the undersigned, hereby state that I am the [legal owner/legally authorized representative of the legal owner] of the above listed animal and I am authorized to make all medical decisions regarding this animal. I have declined any further care for the above animal and am hereby authorizing [vet], and staff, agents and representatives to euthanize the above listed animal. I release [vet], and staff, and representatives from any harm which may result from said euthanasia. I agree to have [vet] choose a euthanasia protocol at the doctor's sole and exclusive discretion and have had all my questions and concerns regarding this process answered prior to signing this consent. I attest that the above listed animal has not been exposed to rabies, has not bitten anyone, and has not displayed any signs of unusual attitude or aggression in the last six (6) months.

[signed and dated]
name of owner

[signed and dated]
name of witness

Template Two

Owner's Name: _____
Address: _____
Date: _____
Phone: _____

Animal Name: _____
Species: _____ Age _____
Breed: _____
Sex: _____

I, the undersigned, being a person over eighteen years of age, do hereby certify that I am the owner, or duly authorized agent for the owner, of the animal described above. I hereby consent to and order euthanasia to be performed on this animal, releasing (insert name), DVM, and the (insert shelter identification name/number) from any and all liability for performing said euthanasia.

I do also certify that the said animal has not bitten any person or animal during the last fifteen (15) days and to the best of my knowledge has not been exposed to rabies.

It is my desire to provide for my pet decent and humane after-death care, complying with all legal requirements of the area. I authorize, (insert name) DVM, and the (insert shelter identification name/number) to take charge of my pet's remains in accordance with the shelter policy, releasing the veterinarian and associated agents from any and all liability for performing said after-death care, with the following stipulations included:

Signed: _____

Date: _____

Witness: _____

Date: _____