

CE PEER-REVIEWED

Animal sheltering in the United States: Yesterday, today, and tomorrow

Dog pounds are a thing of the past. Today's animal shelters are community centers that provide numerous public services. But these services, such as behavior classes, often require veterinary input. Are you up to the challenge?

Lila Miller, DVM

Homeless animals are no longer viewed as a public nuisance to be warehoused in substandard facilities and disposed of as quickly and quietly as possible. Just as there has been a shift in the role companion animals play in the lives of people, the way society views homeless animals and the care they should receive in shelters has also shifted. Increasingly, the trend across the United States is to design shelters as friendly and inviting community centers where the public can go to not only relinquish or adopt pets but also to receive counseling on responsible pet ownership and animal behavior problems and to receive services ranging from low-cost, elective spay or neuter surgeries to comprehensive veterinary care.

To effectively satisfy the rising demand for better preventive healthcare programs and veterinary services for shelter animals, veterinarians must understand the mission and goal of animal shelters and the resources available to them. Veterinarians also need to recognize that practicing veterinary medicine in a shelter can vary substantially from traditional small-animal



private practice. Failure to appreciate these points can lead to frustration and resentment by both the shelter workers and veterinarians, which can lead to a breakdown of communication and may ultimately result in the shelter animals not receiving appropriate and humane care.

My goal with this article is to outline what practitioners need to know about animal shelters to reduce these misunderstandings and provide shelter animals with the best care possible.

HISTORY OF ANIMAL SHELTERS

Animal shelters evolved from pounds, which were used in colonial towns to round up and hold wandering livestock that could be redeemed from the poundmaster for a fee. Because an economic value was placed on these animals, they were often reclaimed. When

the system began to be used to impound wandering dogs and cats, these animals were often killed because little monetary value was placed on them.¹

The American Society for the Prevention of Cruelty to Animals (ASPCA) was founded in 1866 as the first animal welfare organization in the United States. The organization's focus was on the mistreatment of horses, not dogs and cats. Several other humane organizations were founded soon after in major cities, but they were not, and still are not, affiliated with each other. The concept of animal control and shelters slowly took hold, and cities began issuing dog licenses as a source of funding for these programs. However, the shelter's primary role was not to provide humane care and treatment of the animals but to provide public safety and to protect private

Lila Miller, DVM
Department of Veterinary Outreach
American Society for the Prevention
of Cruelty to Animals
424 E. 92nd St.
New York City, NY 10128

property rights. In 1874, the Women's Branch of the Pennsylvania SPCA in Philadelphia became the first organization to focus on the humane treatment of shelter animals.¹

Until the late 1970s, the veterinary community had little input into the management policies of shelters. Instead of focusing on providing humane veterinary care and treatment to the animals, the energies of many shelters revolved around providing a humane death for the many animals that were not reclaimed or adopted. The euthanasia methods used included clubbing, drowning, electrocution, decompression chambers, and carbon monoxide poisoning, all of which have been considered either quick or humane at various points in time.¹

In the late 1970s, enough concern about the quality of life offered to shelter animals was raised that veterinary input was sought to provide effective programs of preventive care and treatment. In 1989, *Current Veterinary Therapy X* published one of the first articles in a veterinary publication regarding the care of shelter animals.²

ANIMAL SHELTERS TODAY

The ASPCA National Outreach department estimates that more than 5,000 animal shelters exist in the United States. However, no one knows for

animal shelters, the guidelines for animal care may be rudimentary at best.

Number of animals

Many estimates have been made regarding the U.S. dog and cat population,³ but it is not clear how many animals enter shelters or are euthanized annually. The National Council for Pet Population Study and Policy, a coalition of several animal welfare, veterinary, and animal advocacy groups, was formed in 1993 to gather and analyze data on pet relinquishment. Its studies may be found on the Web site www.petpopulation.org, including commentary on the difficulties encountered in gathering accurate data from shelters. However, it is commonly thought that the number one cause of death of dogs and cats in the United States is euthanasia in an animal shelter.

Types of shelters

There are several models for animal sheltering and rescue organizations. Some communities have numerous organizations while others have none. For example, the Mayor's Alliance for NYC's Animals, which was formed in 2002 to end the euthanasia of adoptable animals in New York City by 2008, has over 40 member organizations involved with animal rescue.

Until the 1970s, the veterinary community had little input into the management policies of shelters.

sure since there is no federal system to define or regulate shelters. Humane societies and SPCAs are not affiliated with the national ASPCA or the Humane Society of the United States (HSUS). Although some states regulate

Shelters may be housed in private homes, in dilapidated shacks, or in large, ultra-modern, multimillion-dollar facilities. Some shelters are fully staffed by paid employees, while others are run by dedicated volun-



Trust The Gold Standard



For over 26 years, veterinarians around the world have trusted Soloxine® as The Gold Standard in T₄ therapy because it delivers uncompromising quality in every scenario - best case, worst case, every case. Every time. And that's why it's The Gold Standard.

Passionate About Animal Health



teers. In addition, the veterinary services may be performed by a full-time employed veterinary staff or by consultations with local practitioners when problems arise.

Shelters are categorized as municipal or private shelters, rescue groups, or sanctuaries. There may be some overlap of functions, but there are also fundamental differences.

Municipal shelters. Shelters that are under municipal control provide animal control services funded mostly by local taxes, dog license fees, and other specialized programs. Some municipal shelters are divisions of the city's health, police, or sanitation departments, while others may be private agencies that accept the contract

a major contributing factor to the high occurrence of disease seen in some shelters. Euthanasia is often necessary as a means of population and disease control, regardless of an animal's adoptability.

The public services provided by municipal shelters may include lost and found, adoptions, disaster relief, and nuisance, stray-animal, and rabies control. Increasingly, optional services are being offered to reduce the number of animals relinquished to shelters. These include low-cost veterinary care, such as neutering services; behavior counseling; training classes; and foster care. Many shelters offer humane education and summer camp programs that promote humane and responsible animal care by young people.

The typical animal relinquished to shelters is now thought to be an adolescent or older pet.

for animal control (e.g. ASPCA in New York City and the San Francisco SPCA before they relinquished the contracts back to the cities). In some cases, municipal shelters may raise private funds to provide additional services.

For the most part, municipal shelters are open admission, meaning they must admit every animal relinquished to them regardless of the number of animals already in the facility or an animal's state of health or adoptability. Some animals may be held for a long time because they are involved in court cases, while others may be held for just a few days. Municipal shelters often must hold stray animals for a mandated period, ranging from two to seven days, so their owners may have time to reclaim them. The resultant overcrowding is

Private shelters. Private shelters are often 501(c)(3) not-for-profit corporations that raise funds from the public to provide services. Because they often do not have the contract for animal control, private shelters may be limited-admission or no-kill, meaning that they do not use euthanasia as a primary means of population or disease control. Private shelters can simply close their doors to alleviate overcrowding or control disease spread. Private shelters that do not have animal control functions tend to focus on adoption and neutering services as well as humane education, animal behavior programs, and community projects.

Rescue groups and sanctuaries. Rescue groups and sanctuaries round out the array of animal sheltering or-

ganizations frequently encountered. Rescue groups often focus on a specific breed or species and have programs that work with larger established shelters to find homes for animals that fall within their guidelines. Sanctuaries provide homes for animals that generally cannot be rehomed, and they often house those animals for life.

DEVELOPMENTS AND TRENDS IN ANIMAL SHELTERING

Animal sheltering has undergone enormous changes over the last 25 years, including an emphasis on reducing the number of healthy animals that are euthanized and making appropriate owner-pet matches.

No-kill movement

One of the most profound trends is the rise of the no-kill movement, which began in San Francisco in 1989 under the leadership of Richard Avanzino. The San Francisco SPCA relinquished its contract for animal control to instead work with the San Francisco municipal animal control agency to end the euthanasia of adoptable animals. This action had a far-reaching impact on the entire animal welfare movement. Many other animal sheltering agencies followed suit, leading to an often heated and ongoing philosophical debate about the use of euthanasia as a primary means of animal control. Open-admission shelters, which must accept every animal regardless of the circumstances, felt a stigma was attached to them by the no-kill shelters, which often have the means and resources other than euthanasia for managing their numbers.

Despite the rift in the animal welfare community, the result of the debate has been a concerted effort by shelters and communities across the country to reduce the number of adoptable animals that are euthanized by focusing on programs that increase adoptions and reduce relinquishments and the number of unwanted animal births. Maddie's Fund

(www.maddies.org), a multimillion-dollar charitable foundation, has contributed substantially to the development of university and community programs designed to end the euthanasia of adoptable companion animals.

Asilomar Accords

The Asilomar Accords (available at www.asilomaraccords.org) were drawn up in 2004 by a group of leading animal welfare organizations, including the ASPCA, HSUS, American Humane, North Shore Animal League America, Best Friends Animal Society, Dumb Friends League, and Society of Animal Welfare Administrators. The groups agreed to work with each other in the spirit of collegiality and to end the use of inflammatory terms that are self-defeating to the common cause of ending the euthanasia of healthy animals. The accords also strived to encourage animal welfare organizations to share information and use common terminology, definitions, and statistics to create consistency in reported data. For example, according to the accords, "healthy means and includes all dogs and cats eight weeks of age or older that, at or subsequent to the time the animal is taken into possession, have manifested no signs of a behavioral or temperamental characteristic that could pose a health or safety risk or otherwise make the animal unsuitable for placement as a pet, and have manifested no sign of disease, injury, a congenital or hereditary condition that adversely affects the health of the animal or that is likely to adversely affect the animal's health in the future." Other definitions provided by the accords include *treatable*, *rehabilitatable*, and *manageable*.

Microchipping

Although microchipping is only now achieving widespread attention in veterinary practices, shelters have been scanning and implanting microchips for years. In New York State, although microchipping is defined to be a prac-

tice of veterinary medicine, an exemption was created in the veterinary practice act that allows shelter personnel to implant microchips in shelter animals awaiting adoption.⁴

Colony housing

The way animals are housed in shelters has undergone many changes. Shelters that once housed animals in groups in the 1970s and '80s and then switched to individual cages to reduce disease are now switching back to group and colony housing in an attempt to reduce stress and thereby possibly decrease susceptibility to disease. Some people believe that appropriately designed colony housing has also resulted in decreased loneliness in shelter animals and an increased adoption rate because animals appear more natural, relaxed, and attractive to potential owners.

Fewer puppies and kittens

The typical animal relinquished to shelters is now thought to be an adolescent or older pet, rather than a puppy or kitten. Some animal shelters in the Northeast and elsewhere have experienced shortages of adoptable puppies, which some have attributed to their aggressive neutering efforts. So transport programs have been developed to transfer adoptable puppies from areas in the South where there is an oversupply to areas of high demand and low supply.

Behavior evaluations

Shelters are increasing their efforts to evaluate the behavior and temperament of their animals in order to make better matches when placing them in new and, it is hoped, permanent homes. When animals present with mild behavior problems, many shelters undertake behavior modification and enrichment programs to render them adoptable or seek experienced adopters who can manage the problem.

Trap-neuter-return programs

One of the most controversial programs used by shelters is trap-neuter-



Trust Now Comes
In A 1.0 mg Dose



Soloxine® is The Gold Standard in canine hypothyroidism therapy because it delivers levothyroxine sodium of outstanding purity in nine different strengths, including our new 1.0 mg dose. And that's why it's been trusted as The Gold Standard for over 26 years.



Passionate About Animal Health

Research has shown that the longer animals are held in shelters, the more likely they are to become diseased.

return, which provides an alternative to the trap-and-euthanize programs commonly used to manage the burgeoning free-roaming and feral cat population. A properly managed trap-neuter-return program returns the animals to colony located in a safe environment where they are fed, given water and shelter, and monitored continually for health problems by community volunteers. Homes are sought for adoptable animals. The goal of trap-neuter-return programs is to ultimately eliminate the colony through attrition. Questions about the cats' impact on the indigenous wildlife and songbird populations, the management and placement of the colonies, and whether it is appropriate to leave cats outdoors continue to be raised. Ongoing research is being conducted to determine the effectiveness of these programs.

Other trends

Other meaningful trends in animal sheltering include the development of pediatric and high-volume neutering techniques, the implementation of neuter-before-adoption policies by shelters, conversion to sodium pentobarbital injections instead of carbon monoxide chambers for euthanasia, and the creation of a separate group of veterinary technicians who have specialized training in humane mass euthanasia techniques.

INCREASED INTEREST IN SHELTER MEDICINE

All of the aforementioned programs have required veterinary input to be

successful, which has led to an increased interest in shelter medicine.

Public interest

Research has shown that the longer animals are held in shelters, the more likely they are to become diseased.⁵ Historically, when animals in shelters became sick they were euthanized, but the influence of the no-kill movement and public awareness of the plight of shelter animals have led to a demand for better professional treatment and prevention strategies. Disease outbreaks in shelters often make headlines. Decisions to depopulate are heavily scrutinized and are criticized by the public, press, and veterinarians if they are undertaken without careful consideration of humane alternatives.

Continuing education

In 1992, in conjunction with its annual conference, the American Humane held the first continuing education meeting that focused on shelter medicine. American Humane recognized that a degree in veterinary medicine does not prepare veterinarians to handle the challenges faced in developing and implementing effective disease prevention and treatment programs that include different vaccination and deworming strategies, special use of disease-testing programs, and high-volume neutering techniques.

Today, shelter medicine is being taught at many veterinary colleges. The first formal class in shelter medicine was at Cornell University in 1999 in conjunction with the ASPCA. Since then, several universities have begun offering courses



Levothyroxine sodium.

SUMMARY: Read package insert for full disclosure. **INDICATIONS:** For use in

canine patients for correction of conditions associated with low circulating thyroid hormone (hypothyroidism).

DOSAGE: The initial recommended daily dose is 0.1mg/10lb. (4.5 kg) body weight b.i.d. Dosage is then adjusted by monitoring the T4 blood levels of the dog every four weeks until an adequate maintenance dose is established. The usual maintenance dose is 0.1 mg/10 lb.

(4.5 kg) body weight once daily. **ADMINISTRATION:** Soloxine tablets may be administered orally or placed in pet's food. **WARNING:** Administer with caution to animals with clinically significant heart disease, hypertension, or other complications for which a sharply increased metabolic rate might prove hazardous. Use in pregnant bitches has not been evaluated. **CAUTION:** Federal law restricts this drug to use by or on the order of a licensed veterinarian. **SUPPLIED:**

Soloxine tablets: 0.1mg, 0.2mg, 0.3mg, 0.4mg, 0.5mg, 0.6mg, 0.7mg, 0.8mg, 0.9mg, 1.0mg, 1.5mg, 2.0mg, 2.5mg, 3.0mg, 3.5mg, 4.0mg, 4.5mg, 5.0mg, 6.0mg, 7.0mg, 8.0mg, 9.0mg, 10.0mg, 15.0mg, 20.0mg, 25.0mg, 30.0mg, 35.0mg, 40.0mg, 45.0mg, 50.0mg, 60.0mg, 70.0mg, 80.0mg, 90.0mg, 100.0mg, 150.0mg, 200.0mg, 250.0mg, 300.0mg, 350.0mg, 400.0mg, 450.0mg, 500.0mg, 600.0mg, 700.0mg, 800.0mg, 900.0mg, 1000.0mg.

Soloxine tablets: 0.1mg, 0.2mg, 0.3mg, 0.4mg, 0.5mg, 0.6mg, 0.7mg, 0.8mg, 0.9mg, 1.0mg, 1.5mg, 2.0mg, 2.5mg, 3.0mg, 3.5mg, 4.0mg, 4.5mg, 5.0mg, 6.0mg, 7.0mg, 8.0mg, 9.0mg, 10.0mg, 15.0mg, 20.0mg, 25.0mg, 30.0mg, 35.0mg, 40.0mg, 45.0mg, 50.0mg, 60.0mg, 70.0mg, 80.0mg, 90.0mg, 100.0mg, 150.0mg, 200.0mg, 250.0mg, 300.0mg, 350.0mg, 400.0mg, 450.0mg, 500.0mg, 600.0mg, 700.0mg, 800.0mg, 900.0mg, 1000.0mg.

Soloxine tablets: 0.1mg, 0.2mg, 0.3mg, 0.4mg, 0.5mg, 0.6mg, 0.7mg, 0.8mg, 0.9mg, 1.0mg, 1.5mg, 2.0mg, 2.5mg, 3.0mg, 3.5mg, 4.0mg, 4.5mg, 5.0mg, 6.0mg, 7.0mg, 8.0mg, 9.0mg, 10.0mg, 15.0mg, 20.0mg, 25.0mg, 30.0mg, 35.0mg, 40.0mg, 45.0mg, 50.0mg, 60.0mg, 70.0mg, 80.0mg, 90.0mg, 100.0mg, 150.0mg, 200.0mg, 250.0mg, 300.0mg, 350.0mg, 400.0mg, 450.0mg, 500.0mg, 600.0mg, 700.0mg, 800.0mg, 900.0mg, 1000.0mg.

Soloxine tablets: 0.1mg, 0.2mg, 0.3mg, 0.4mg, 0.5mg, 0.6mg, 0.7mg, 0.8mg, 0.9mg, 1.0mg, 1.5mg, 2.0mg, 2.5mg, 3.0mg, 3.5mg, 4.0mg, 4.5mg, 5.0mg, 6.0mg, 7.0mg, 8.0mg, 9.0mg, 10.0mg, 15.0mg, 20.0mg, 25.0mg, 30.0mg, 35.0mg, 40.0mg, 45.0mg, 50.0mg, 60.0mg, 70.0mg, 80.0mg, 90.0mg, 100.0mg, 150.0mg, 200.0mg, 250.0mg, 300.0mg, 350.0mg, 400.0mg, 450.0mg, 500.0mg, 600.0mg, 700.0mg, 800.0mg, 900.0mg, 1000.0mg.

Soloxine tablets: 0.1mg, 0.2mg, 0.3mg, 0.4mg, 0.5mg, 0.6mg, 0.7mg, 0.8mg, 0.9mg, 1.0mg, 1.5mg, 2.0mg, 2.5mg, 3.0mg, 3.5mg, 4.0mg, 4.5mg, 5.0mg, 6.0mg, 7.0mg, 8.0mg, 9.0mg, 10.0mg, 15.0mg, 20.0mg, 25.0mg, 30.0mg, 35.0mg, 40.0mg, 45.0mg, 50.0mg, 60.0mg, 70.0mg, 80.0mg, 90.0mg, 100.0mg, 150.0mg, 200.0mg, 250.0mg, 300.0mg, 350.0mg, 400.0mg, 450.0mg, 500.0mg, 600.0mg, 700.0mg, 800.0mg, 900.0mg, 1000.0mg.

Passionate About Animal Health



in shelter medicine. The University of California, Davis; Cornell University; and Colorado State University (and soon the University of Pennsylvania) offer shelter medicine residency programs, and the list is growing. In addition,

shelter medicine continuing education tracks are available at the North American Veterinary Conference, Western Veterinary Conference, Midwest Veterinary Conference, and numerous animal welfare conferences. Classes

have also been offered on the Veterinary Information Network (www.vin.com).

Shelter veterinarians

Shelter veterinarians must not only be thoroughly familiar with infectious



You can earn two hours of Continuing Education credit from Kansas State University by answering the following questions on animal shelters. Circle only the best answer for each question, and transfer your answers to the form on page 686.

Article #1

1. Which statement is false?

- a. The first animal pounds were used to hold wandering livestock.
- b. The ASPCA was founded to reduce the mistreatment of horses.
- c. Veterinarians have always been integral in the management of animal shelter healthcare policies.
- d. The first organization to focus on the humane treatment of shelter animals was in Philadelphia.
- e. The primary role of early shelters was to provide public safety and protect property rights.

2. The number of animal shelters in the United States is:

- a. 1,000
- b. 2,000
- c. 3,000
- d. 4,000
- e. Unknown

3. Which type of shelter is funded mostly by local taxes and dog license fees?

- a. Municipal shelters
- b. Private shelters
- c. Rescue groups
- d. Animal sanctuaries
- e. All of the above

4. Which statement about municipal shelters is false?

- a. They are open admission.
- b. Euthanasia is often a necessary means of population and disease control.
- c. Some provide training classes to help reduce the number of pets relinquished to the shelter.
- d. Many are no-kill shelters.

- e. Services provided to the public may include lost and found, adoptions, disaster relief, and stray-animal and rabies control.

5. Which type of shelter focuses on a specific breed or species and often has programs to find homes for these animals?

- a. Municipal shelters
- b. Private shelters
- c. Rescue groups
- d. Animal sanctuaries
- e. None of the above

6. Which type of shelter provides a home for life for animals that cannot generally be rehomed?

- a. Municipal shelters
- b. Private shelters
- c. Rescue groups
- d. Animal sanctuaries
- e. None of the above

7. Which statement about the Asilomar Accords is false?

- a. The accords were created through the collaboration of many animal welfare organizations.
- b. The accords were written in 1904.
- c. The accords encourage animal welfare organizations to share information.
- d. The ultimate goal of the organizations involved is to reduce the number of healthy animals that are euthanized.
- e. The accords encourage animal welfare organizations to use common terminology, definitions, and statistics.

8. Meaningful trends in animal sheltering include:

- a. The development of pediatric neutering techniques
- b. The implementation of neuter-before-adoption policies
- c. The use of microchipping
- d. The creation of a separate group of veterinary technicians who are trained in humane mass euthanasia techniques
- e. All of the above

9. An unanticipated positive result of colony housing is:

- a. An increase in the number of adoptions
- b. Increased stress to animals
- c. Shortages in the number of adoptable geriatric pets
- d. Increased water bills
- e. None of the above

10. Which statement is false?

- a. When animals present with mild behavior problems, many shelters undertake behavior modification and enrichment programs or seek experienced adopters who can manage the problem.
- b. A properly managed trap-neuter-return program returns free-roaming cats to a safe environment where they are fed, given water and shelter, and monitored continually for health problems.
- c. The typical animals relinquished to shelters are puppies and kittens.
- d. Shelter veterinarians must often make decisions without the support of colleagues.
- e. Today, shelter medicine is being taught at many veterinary colleges.

Continued on page 663.

disease management from a herd health perspective, including detailed knowledge of each disease encountered, but they must also be knowledgeable about stress management techniques; animal behavior; shelter design; sanitation protocols; euthanasia techniques; husbandry of various small mammals, birds, reptiles, and farm animals; zoonosis; and veterinary forensics. Shelter veterinarians are on the front lines when it comes to animal cruelty by uncovering, preserving, and documenting evidence for the prosecution. Their diagnostic skills often rely heavily on physical examinations since diagnostic testing may not be available.

Decisions that veterinarians must make have an impact on thousands of animals and are often made without the benefit of peer-reviewed, published veterinary data or the support of colleagues. Shelter veterinarians must be creative, resourceful, and independent-minded in order to try new and unproven healthcare strategies.

The Association of Shelter Veterinarians was formed in 2001 and now has more than 500 members. The association has a Web site (www.sheltervet.org) and list serve and is in the early stages of seeking specialty board status.

CONCLUSION

Animal shelters continue to evolve. A dramatic shift from dog pounds, in which minimal care was provided and death was almost inescapable, to community service centers, which provide information and resources to protect both the public and animals from harm, has already occurred. Many shelters provide animal behavior classes; sanctuary for animals belonging to victims of domestic violence; programs that help at-risk youth and other populations; humane-education, bite-prevention, and animal-assisted-therapy programs; and state-of-the-art veterinary care. They also offer externship and training programs for future shelter veterinarians and microchipping and vaccination clinics for low-income clients. In addition, shelters engage in various fundraising efforts, both educational and philanthropic, to benefit shelters and their animals.

The veterinary community must engage in research and education to meet the challenge of maintaining and improving the health and well-being of shelter animals and help prevent the euthanasia of millions of dogs and cats in the United States. ♦

REFERENCES

- Zawistowski S, Morris J. The evolving animal shelter. In: Miller L, Zawistowski S, eds. *Shelter medicine for veterinarians and staff*. Oxford, England: Blackwell Publishing, 2004;3-9.
- Edwards MA. The practice of veterinary medicine in a humane society facility. In: Kirk RW, Bonagura JD, eds. *Current veterinary therapy X*. Philadelphia, Pa: WB Saunders Co, 1989;85-90.
- Scarlett J. Pet population dynamics and animal shelter issues. In: Miller L, Zawistowski S, eds. *Shelter medicine for veterinarians and staff*. Oxford, England: Blackwell Publishing, 2004;11-15.
- New York State Education Department. Veterinary medicine page. Available at: www.op.nysed.gov/article135.htm Article 135, 6705.10. Accessed Sept 05, 2007.
- Edinboro CH, Janowitz LK, Gupta-Yoran L, et al. A clinical trial of intranasal and subcutaneous vaccines to prevent upper respiratory infection in cats at an animal shelter. *Feline Practice* 1999;27:7-11,13.

Deramaxx[®]
(deracoxib)

NADA 141-203, Approved by FDA
DERAMAXX[®] (deracoxib) Chewable Tablets
Brief Summary—For full product information see product insert.

Caution: Federal (USA) law restricts this drug to use by or on the order of a licensed veterinarian.
Description: DERAMAXX (deracoxib) is a non-narcotic, non-steroidal anti-inflammatory drug of the coxib class.
Indications and Usage: DERAMAXX Chewable tablets are indicated for the control of pain and inflammation associated with osteoarthritis in dogs at a dose of 0.45–0.91 mg/lb/day (1–2 mg/kg/day) as a single daily dose, as needed.

In addition, DERAMAXX Chewable tablets are indicated for the control of postoperative pain and inflammation associated with orthopedic surgery in dogs ≥ 4 lbs (1.8 kg) at a dose of 1.4–1.8 mg/lb/day (3 to 4 mg/kg/day) as a single daily dose, as needed, not to exceed 7 days of administration.

Contraindications: Dogs with known hypersensitivity to DERAMAXX or other NSAIDs should not receive DERAMAXX tablets.

Warnings: Not for use in humans. Keep this and all medications out of reach of children. Consult a physician in case of accidental ingestion by humans. **For use in dogs only.**

All dogs should undergo a thorough history and physical examination before the initiation of NSAID therapy. Appropriate laboratory tests to establish hematological and serum biochemical baseline data prior to, and periodically during, administration of any NSAID is recommended. **Owners should be advised to observe for signs of potential drug toxicity (see Adverse Reactions and Post-Approval Experience) and be given an "Information for Dog Owners" Sheet.**

Sensitivity to drug-associated adverse events varies with the individual patient. As a class, NSAIDs may be associated with gastrointestinal, renal and hepatic toxicity. Patients at greatest risk for NSAID toxicity are those that are dehydrated, on concomitant diuretic therapy, or those with existing renal, cardiovascular, and/or hepatic dysfunction. Since many NSAIDs possess the potential to produce gastrointestinal ulceration, concomitant use of DERAMAXX tablets with other anti-inflammatory drugs, such as NSAIDs or corticosteroids, should be avoided.

Precautions: If additional pain medication is needed after a daily dose of DERAMAXX tablets, a non-NSAID/non-corticosteroid class of analgesic may be necessary. The safe use of DERAMAXX tablets in dogs younger than 4 months of age, dogs used for breeding, or in pregnant or lactating dogs has not been evaluated.

Appropriate monitoring procedures should be employed during all surgical procedures. The use of parenteral fluids during surgery should be considered to decrease potential renal complications when using NSAIDs perioperatively. Concurrent administration of potentially nephrotoxic drugs should be carefully approached.

The use of concomitantly protein-bound drugs with DERAMAXX tablets has not been studied in dogs. Drug compatibility should be monitored in patients receiving adjunctive therapy. Consider appropriate washout times when switching from one NSAID to another or when switching from corticosteroid use to NSAID use.

Adverse Reactions:

Postoperative Orthopedic Pain and Inflammation Field Study

In a placebo-controlled field study of postoperative orthopedic pain, involving 207 dogs dosed for 7 days, the following adverse reactions were reported:

Abnormal Health Findings in the Postoperative Orthopedic Pain Field Study ¹									
Clinical Observation	DERAMAXX tablets		Placebo		Clinical Observation	DERAMAXX tablets		Placebo	
	N = 105	N = 102	N = 105	N = 102		N = 105	N = 102		
Vomiting	11	6	Otitis Externa	2	0				
Diarrhea	6	7	Positive joint culture	1	0				
Hematochezia	4	0	Phlebitis	1	0				
Melena	0	1	Hematuria	2	0				
Anorexia	0	4	Conjunctivitis	1	2				
Incision site lesion (drainage, oozing)	11	6	Splenomegaly	1	0				
Non-incision Skin Lesions (moist dermatitis, pyoderma)	2	0	Hepatomegaly	1	0				
			Death	0	1				

¹Dogs may have experienced more than one of the observations during the study.

This table does not include one dog that was dosed at 16.92 mg/kg/day for the study duration. Beginning on the last day of treatment, this dog experienced vomiting, diarrhea, increased water intake and decreased appetite. Hematology and clinical chemistry values were unremarkable. The dog recovered uneventfully within 3 days of cessation of dosing.

Osteoarthritis Pain and Inflammation Study

In a placebo-controlled field study of osteoarthritis involving 209 dogs dosed for 43 days, the following adverse reactions were reported:

Abnormal Health Findings in the Osteoarthritis Field Study ¹									
Clinical Observation	DERAMAXX tablets		Placebo		Clinical Observation	DERAMAXX tablets		Placebo	
	N = 105	N = 104	N = 105	N = 104		N = 105	N = 104		
Vomiting	3	4	Pyoderma/Dermatitis	2	0				
Diarrhea/Soft stool	3	2	Unilateral Conjunctivitis	1	0				
Weight Loss	1	0	Scleral Injection	0	1				
Abdominal Pain (splinting)	0	1	Hematuria/UTI	1	0				
Seizure	1	0	Splenomegaly*	1	0				
Lethargy	0	1	Grade II Murmur Systolic	1	0				

¹Dogs may have experienced more than one of the observations during the study.

*This dog was less active and eating less on enrollment, with elevated WBC, amylase and AST and died 1 month after exiting the study. The dog was withdrawn from the study on Day 17 with anorexia, lethargy and a suspicion of diarrhea. Follow-up laboratory analyses revealed hypoalbuminemia, hyperphosphatemia, elevated AST and decreased BUN. Follow-up treatment included other anti-inflammatories and antibiotics.

Post-Approval Experience: The following adverse reactions are based on voluntary post-approval reporting. The categories are listed in decreasing order of frequency by body system.

Gastrointestinal: Vomiting, anorexia, diarrhea, melena, inappetence, hematemesis, hematochezia, weight loss, nausea, gastrointestinal ulceration, gastrointestinal perforation, salivation. **Hematological:** Anemia, thrombocytopenia. **Hepatic:** Hepatic enzyme elevations, decreased or increased total protein and globulin, decreased albumin, decreased BUN, hyperbilirubinemia, icterus, ascites, pancreatitis. **Neurological:** Lethargy, weakness, seizure, ataxia, tremor, nystagmus, mydriasis. **Sensory:** Vestibular signs, glazed eyes, uveitis. **Behavioral:** Aggression, apprehension. **Urinary:** Azotemia, polydipsia, polyuria, hematuria, low specific gravity, urinary incontinence, urinary tract infection, renal failure. **Cardiovascular:** Bradycardia. **Respiratory:** Tachypnea, coughing. **Dermatological/Immunological:** Fever, edema, facial/muzzle edema, pruritis, urticaria, moist dermatitis, erythema, dermal ulceration/necrosis. In rare situations, death has been reported as an outcome of the adverse events listed above.

For technical assistance or to report suspected adverse events, call 1-800-332-2761.

Manufactured for: Novartis Animal Health US, Inc., Greensboro, NC 27408, USA

©2007 Novartis Animal Health US, Inc.

DERAMAXX is a registered trademark of Novartis AG.

NAH/DER-T-POOA/BS/7