



Chapter 3

Veterinary Practitioners

Veterinarians have led successful efforts against all past epidemic-scale threats to companion animals in the United States, including rabies, distemper, and parvovirus.¹⁶² The single remaining threat of comparable magnitude is the wide-scale use of population control euthanasia in animal shelters. In this case, too, practitioners have made a substantial contribution to reducing the incidence of euthanasia in shelters during the past 25 years by making pet sterilization widely available and effectively counseling their clients about its benefits.¹⁶³ Even more can be done, though. As discussed below, practitioners can help eradicate the use of euthanasia as a means of controlling animal shelter populations by providing services that are of great benefit to clients and their pets and, at the same time, are compatible with the practical requirements of delivering the highest-quality veterinary services.

I. Counseling Clients About the Protective Benefits of Surgically Sterilizing Cats and Dogs.

The health benefits of canine and feline ovariohysterectomy (e.g., prevention of pyometra and reduction of mammary gland neoplasms) and castration (e.g., prevention of testicular neoplasms and reduction of prostatitis) are well known.¹⁶⁴

There can be behavioral benefits as well: Surgical sterilization of dogs and cats is associated with a reduction in undesirable or dangerous behaviors that could otherwise have led to the animal being relinquished to an animal shelter and euthanized. For instance, sexually intact dogs are more likely to exhibit inappropriate elimination and unwanted chewing than sterilized dogs.¹⁶⁵ Intact cats are more likely to exhibit inappropriate elimination and aggression toward people.¹⁶⁶ Aggression, inappropriate elimination, and destructive behavior are considered to be serious problems by pet owners¹⁶⁷ and are among the most significant behavioral risk factors associated with the relinquishment of cats¹⁶⁸ and dogs¹⁶⁹ to an animal shelter. Although there are some detriments associated with surgical sterilization,¹⁷⁰ considering that population control euthanasia in animal shelters results in more canine and feline deaths in the United States than any infectious or non-infectious disease,¹⁷¹ veterinary practitioners serve their clients well by counseling them about the protective benefits of pet sterilization.

Data suggest that the benefits of pet sterilization to clients and their pets have been substantial. In the early 1970s, the pet sterilization rate was only about 5% and more than one-fifth of all owned cats and dogs in the United States were put to death in shelters every year.¹⁷² By 1996, the sterilization rate of owned pets had grown to 59.9% for dogs and 77.3% for cats,¹⁷³ and the shelter death toll had dropped by more than 75%.¹⁷⁴

II. Providing Incentives for Canine and Feline Ovariohysterectomies Performed Prior to the Animal's First Estrus.

Clinical evidence suggests that the optimal age to surgically sterilize female cats and dogs is before their first estrus.¹⁷⁵ As discussed more fully in the introductory chapter (Pages 14-16), while most pet owners recognize the benefits that flow from having their pet sterilized, many do not appreciate the critical importance of timeli-

ness in maximizing these benefits. Surveys consistently show that more than half of all dog and cat owners either do not know whether a pet would be better off by having a litter before being sterilized or mistakenly believe that she would.^{176,177} The extent of this knowledge deficit is not significantly different between owners who had visited a veterinarian within the past year and those who had not,¹⁷⁸ suggesting that many practitioners have not effectively communicated the time-dependent nature of the benefits of pet sterilization to their clients.

This knowledge deficit has likely led many pet owners to delay having female pets sterilized until after the optimal age. In a 2007 national survey, more than two-fifths of all owners of intact cats cited the benefits of having a litter before being sterilized as a reason they had not had a cat spayed.¹⁷⁹

By delaying having female pets sterilized until after the optimal age, owners jeopardize the animal's health with no benefit. The timing of the kitten and puppy immunization series affords practitioners an excellent opportunity to insure that clients appreciate the importance of timeliness in having female pets sterilized, not only for the health benefits, but also for the protection it may provide in preventing cats that are allowed to remain intact from migrating away from home. Less than 3% of all free-roaming cats have previously been sterilized,¹⁸⁰ suggesting that sterilized cats do not tend to wander from their homes and roam freely. To encourage clients to have female pets sterilized at the optimal age, practitioners may want to offer incentives for spays performed at five months of age or earlier, such as discounts that reflect the reduction in labor and supplies required or "wellness packages" that include discounts on immunizations, microchipping, and puppy socialization classes when purchased with the timely sterilization.

Responses to statements contained in 1995-1996 National Pet-Owning Household Survey

Statement: A female dog/cat will be better off if she has one litter before being fixed.

	True	Don't Know	False
Dog Owners	528 (15.5)	1,230 (35.8)	1,656 (48.2)
Cat Owners	444 (12.8)	1,265 (36.5)	1,742 (50.3)

New, Jr. JC, Salman MD, King M, Scarlett J.M., Kass PH, & Hutchinson JM (2000). Characteristics of shelter-relinquished animals and their owners compared with animals and their owners in U.S. pet-owning households. *J. Appl. Animal Welfare Sci.* 3(3), 192.

III. Counseling Clients About Behavioral Issues and Animal Husbandry.

In the National Council's Shelter Survey, behavioral problems were the most common reason given when adult dogs were surrendered to a shelter and the second-most common reason for cats.¹⁸¹ In the 12 shelters surveyed, problem behaviors were given as reasons for relinquishment by 28.8% of those who surrendered dogs and 21.1% of those surrendering cats.¹⁸² Practitioners have an opportunity to reduce the rate at which their clients surrender pets to shelters because many of the behaviors associated with the greatest risk—such as inappropriate elimination and destructive behavior—^{183, 184} can be modified¹⁸⁵ and many of those who relinquish pets are veterinary clients. Seventy percent of adult dogs and 50% of adult cats relinquished to shelters in the National Council's Shelter Survey had received veterinary care at least once during the year prior to being relinquished.¹⁸⁶ Making sure clients understand that treatment options exist for modifying problem behaviors can lead to improved veterinary care, increased veterinary income, and fewer deaths from euthanasia.¹⁸⁷ For instance, inappropriate elimination is the behavior problem associated with the highest risk of relinquishment for cats¹⁸⁸ and owners who were aware that prescription medications were available to modify inappropriate elimination were half as likely to relinquish a cat as those who were not.¹⁸⁹

“This concern that pet owners will wait too long to have their animals neutered is supported by at least two studies of randomly contacted pet owners, in which 15% and 16% of adopted female cats and dogs had unplanned litters before the owners had them neutered. The major reason cited by owners for these pregnancies before neutering was accidental breeding. Studies suggest that routine neutering 2 to 3 weeks following the final vaccination of client-owned animals can now be done safely and will ensure that accidental breeding is minimized. There is no data supporting 6 months as the ideal age for neutering. That coupled with many veterinarians' concerns that client-owned animals complete their vaccination series before neutering suggests that recommendations for age at neutering be lowered to 4 to 5 months of age for client-owned animal, depending on when the vaccination series is completed.” (Reference citations omitted.)

Spain CV, Scarlett JM, & Cully SM (2002). When to neuter dogs and cats: A survey of New York State veterinarians' practices and beliefs. *J Amer. Anim. Hosp. Ass'n* **38**, 487.

Counseling clients during their initial visit about animal husbandry, techniques for house training, and veterinary availability for assistance with a pet's behavioral problems can help prevent many misconceptions about pets and pet behaviors and strengthen the human-animal bond.¹⁹⁰ The window of opportunity for counseling and intervention can be small, however, because of the frequency with which cats and dogs are relinquished shortly after having been acquired.¹⁹¹ For example, more than 40% of all relinquishments of adult dogs and more than one-third of adult cat relinquishments occur within the first nine months after the pet has been acquired.¹⁹² In many cases, the administration of puppy and kitten vaccinations provides practitioners with an excellent opportunity to inquire about animal husbandry issues and the success of house training and to provide timely assistance with problems that arise.¹⁹³

Practitioners can often fill a critical need by helping clients understand normal canine and feline behavior and better manage problem behaviors, which frequently are normal behaviors expressed at an inappropriate time or place.¹⁹⁴ If they fail to fill that need, however, clients may well secure advice from sources that provide less accurate or protective information.

Compared to having received advice from veterinarians, having received canine behavioral advice from a breeder, trainer, or groomer was associated with a risk of relinquishment almost three times greater and having received advice from a friend or neighbor had a six times greater risk.¹⁹⁵

The protective benefit of effective counseling about animal husbandry and house training is reflected in relinquishment studies. People who relinquished cats, for example, exhibited relatively significant knowledge deficits compared to other cat owners regarding the estrus cycle of cats, the concept of spite as a

“There is no doubt in my mind that in a Northern European or North American veterinarian's practice career she or he will have more opportunities to save lives for behavior reasons than for medical ones. To save a life because of a behavior problem is as important as saving a life by controlling a medical condition. In Britain and North America the greatest reasons why people relinquish their dogs to animal welfare organizations are behavior problems or inappropriate expectations. Even in the most sophisticated of veterinary practices in Europe or North America, where most animal deaths are due to age and disease, it is estimated that five out of every one hundred deaths is a euthanasia for behavior problems.”

Fogel B (1999). The changing role of animals in western society: Influences upon and from the veterinary profession. *Anthrozoos* **12** (4), 238.

“VETERINARIANS AND OTHER ANIMAL PROFESSIONALS
COULD MAKE A DIFFERENCE.

“It isn’t just puppies and kittens anymore. There are other issues causing people to give up their animal, some issues that could be addressed in ways that would allow the animal to remain part of the family.

People have unrealistic expectations. When those aren’t met, they give up. Knowing why some human-animal relationships are unsuccessful is the first step toward prevention. From a mountain of data, some patterns and possible solutions are emerging.

The majority of dogs and cats relinquished had been in the home for less than a year. This leaves a narrow window of opportunity for salvaging the relationship. Education must be implemented during the initial health examination at a veterinary clinic or source of acquisition. Here misconceptions can be clarified, obedience training can be recommended and potential behavior problems could be identified and/or discussed.

A few minutes of time in the clinic could result in years of trust, respect and loyalty from a client experiencing a lasting, successful relationship with a companion animal. Animal professionals are encouraged to utilize the information from this research to begin their own program of building successful human-animal relationships.”

Exploring the surplus cat and dog problem: Highlights of five research publications regarding relinquishment of pets. National Council on Pet Population Study and Policy, <http://www.petpopulation.org/exploring.pdf>, 5.

motivating factor behind some types of cat behavior, the need for immediate correction when a cat behaves improperly, the behavioral problems that can occur as the number of cats in a household increases, and the tendency of cats to pounce, scratch, or bite as a form of play.¹⁹⁶ Similarly, people who relinquished dogs had relatively significant knowledge deficits regarding the estrus cycle of female dogs, the concept of spite as a motivating factor behind some types of dog behavior, and appropriate methods of house training.¹⁹⁷ By insuring that clients have a basic understanding of animal husbandry and recognize that, with effort, many of their pets’ undesirable behaviors can be modified, practitioners can help prevent the often fragile bond between clients and their pets from being broken.¹⁹⁸

IV. Including Dog Training Classes as Part of a Small Animal Practice

Pets do not instinctively acquire behaviors that are necessary for their positive interaction with their owners.¹⁹⁹ Effective training and socialization programs, however, can strengthen the bond between owner and pet by modifying both the animal's behaviors and the owner's expectations.²⁰⁰

Participation in dog training classes is associated with pets having fewer and less prevalent problem behaviors.²⁰¹ The National Council's Shelter Survey found that only 4% of relinquished dogs had participated in obedience classes after their acquisition.²⁰² Dogs that had not participated in obedience classes after being acquired were at five times greater risk of being relinquished to an Indiana shelter than those that had.²⁰³ Indeed, an analysis of the modifiable factors associated with the greatest risk of relinquishment (i.e., failure to participate in a dog obedience class after acquisition, lack of frequent veterinary care, owner's inappropriate care expectations, being sexually intact, and daily or weekly inappropriate elimination) found that participation in an obedience class would result in a greater reduction of canine relinquishments than any other intervention.²⁰⁴ Approximately two-thirds of canine relinquishments to the shelter in the study could theoretically have been prevented if the owner and animal had participated in dog training classes.²⁰⁵

Practitioners can provide a valuable service to their clients and the community by offering dog-training classes as part of their practice.²⁰⁶ These services, which can be delivered by well-trained technicians, not only can help reduce pet relinquishments, they also can bring clients to—and keep clients at—a practice.²⁰⁷

V. Providing Puppy Socialization Classes As Part of a Small Animal Practice

Behavioral issues are the leading cause of death for dogs under three years of age.²⁰⁸ Participation in socialization classes as a puppy is associated with fewer problem behaviors and a reduced risk of relinquishment. A 2003 survey of puppies adopted from a Minnesota animal shelter found puppies that had participated in socialization classes before they were 16 weeks old were significantly more likely to be retained in their adoptive homes than those that received no formal socialization training.²⁰⁹

In much the same way that practitioners can provide a life-saving service to clients and the community by incorporating dog-training classes in their practice, puppy socialization classes can be of similar benefit. If a single practice is not able to provide classes on its own, a group of clinicians and trained technicians can work together to set up a socialization program and rotate the responsibility of teaching the classes.

VI. Counseling Clients About the Importance of Providing Their Pets with Identification

A 2005 study of lost pets conducted in Ohio found that only 48% of all lost dogs²¹⁰ and 19% of all lost cats²¹¹ had been wearing an identification tag or had a microchip at the time they became lost. This study also found, not surprisingly, that lost pets with some form of identification were more likely to be returned home than those with none. More than three-fourths of all the dogs with identification were returned home, compared to two-thirds of those with none.²¹² Cats with identification also tended to have a greater chance of being returned to their owner: 61.2% of the cats with identification were returned home compared to 51.3% of those without identification.²¹³

U.S. pet owners' failure to provide their pets with identification is likely related to the relatively low rate at which lost and stray pets are successfully returned to their owners. The 1998 National Shelter Survey found that less than 25% of stray and lost

“Because the first three months are the period when sociability outweighs fear, this is the primary window of opportunity for puppies to adapt to new people, animals and experiences. Incomplete or improper socialization during this important time can increase the risk of behavioral problems later in life including fear, avoidance, and/or aggression. Behavioral problems are the greatest threat to the owner-dog bond. In fact, behavioral problems are the number one cause of relinquishment to shelters. Behavioral issues, not infectious diseases, are the number one cause of death for dogs under three years of age.

While puppies' immune systems are still developing during these early months, the combination of maternal immunity, primary vaccination, and appropriate care makes the risk of infection relatively small compared to the chance of death from a behavioral problem.” (Reference citations omitted.)

American Veterinary Society of Animal Behavior Position Statement on Puppy Socialization.http://avsabonline.org/avsabonline/images/stories/Position_Statement/

dogs that entered shelters were recovered by their owners and less than 6% of stray and lost cats.²¹⁴ In 2007, the City of Calgary (Alberta) Animal Services Department returned almost 86% of all the stray and lost dogs that came into its custody to their owners and 48% of all the cats.²¹⁵ This return-to-owner rate was very similar to the city's pet licensure rate; officials estimated that in 2007, approximately 90% of dogs and 40% of cats living in Calgary households had been licensed by their owners.²¹⁶

Not being provided with identification plainly increases the risk that a pet will not be recovered by its owner if it strays from home and becomes lost. As part of a wellness exam, practitioners should check for identification in the same way they check for lymphadenopathy or fleas or any other condition that indicates the animal's well-being is at risk.²¹⁷ To make it easier for clients to provide adequate identification for their pets, practices can make temporary tags available whenever a client mentions an address change or vacation plans, sell permanent ID tags or have mail-in forms available in the waiting area, and promote microchipping with every new pet visit or procedure requiring anesthesia.²¹⁸

VII. Providing Discounted Post-Adoption Counseling Services to People Who Adopt Pets From Shelters and Rescue Groups.

A substantial percentage of adoptive placements by shelters and rescue groups are unsuccessful. A 1992 survey found that 20% of dogs adopted from a California shelter were no longer in their adoptive homes after six months.²¹⁹ This was consistent with the rate at which first-time adopted dogs were returned to a Pennsylvania shelter in the early 1990s²²⁰ and the rate at which cats and dogs adopted through rescue groups at pet supply stores were no longer retained in their adoptive homes a year after they had been adopted.²²¹ Dogs adopted from an Indiana shelter were at greater risk of subsequent relinquishment than those acquired from all other sources (i.e., purchased from a breeder, private owner, or pet store, born in the owner's home, or adopted as a stray).²²²

In much the same way that practitioners can provide a potentially life-saving service by effectively counseling their clients about a pet's behavioral problems, as discussed above, they can provide the same critical service to people who adopt pets from shelters or rescue groups. The underlying dynamic is much the same: The frequency of problem behaviors in failed adoptions closely resembles the patterns of behavior in all dogs that have been relinquished to an animal shelter.²²³

It is probably unrealistic to expect owners to be able to successfully correct their pet's problem behaviors without assistance, whether the pet has been acquired from a shelter or another source.²²⁴ Not only would most pet owners benefit from receiving post-adoption assistance, they recognize a need for it. Eighty-eight percent of those who adopted dogs from an Indiana shelter reported that it would have been helpful to have visited a veterinarian after acquiring the dog specifically to discuss the dog's behavior and training issues.²²⁵

Practitioners are uniquely situated to provide pet owners with critically needed counseling. Having unrealistic expectations about the amount of work required to care for a pet^{226, 227} or its role in the family²²⁸ is associated with significantly increased risks of relinquishment, and veterinary counseling has been shown to be an especially effective way to modify a pet owner's expectations.²²⁹

By offering those who adopt pets from shelters or rescue groups a heavily discounted or free first visit to discuss pet care and behavior-related issues, practitioners can not only assist local humane organizations by providing a valuable service, they also can introduce a practice to the growing number of people who acquire pets from shelters or rescue groups.

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- ¹⁶² Levy JK & Crawford PC (2004) Humane strategies for controlling feral cat populations. *J. Am. Vet. Med. Assoc.* **225** (9): 1359.
- ¹⁶³ Scarlett JM, Salman MD, New, Jr. JC, & Kass PH (2002). The role of veterinary practitioners in reducing dog and cat relinquishments and euthanasias. *J. Am. Vet. Med. Assoc.* **220** (3): 309.
- ¹⁶⁴ Kustritz MVR (2007). Determining the optimal age for gonadectomy of dogs and cats. *J. Am. Vet. Med. Assoc.* **231** (11): 1667-68.
- ¹⁶⁵ Patronek GJ, Glickman LT, Beck AM, McCabe GP, & Ecker C (1996). Risk factors for relinquishment of dogs to an animal shelter. *J. Am. Vet. Med. Assoc.* **209** (3): 576.
- ¹⁶⁶ Patronek GJ, Glickman LT, Beck AM, McCabe GP, & Ecker C (1996). Risk factors for relinquishment of cats to an animal shelter. *J. Am. Vet. Med. Assoc.* **209** (3): 584.
- ¹⁶⁷ Shore ER, Burdsal C, & Douglas DK (2008). Pet owners' view of pet behavior problems and willingness to consult experts for assistance. *J. Appl. Animal Welfare Sci.* **11**: 66-67.
- ¹⁶⁸ Patronek et al., Risk factors for the relinquishment of cats, 585.
- ¹⁶⁹ Patronek et al., Risk factors for the relinquishment of dogs, 576.
- ¹⁷⁰ Kustritz, Determining the optimal age for gonadectomy of dogs and cats. 1666-1671.
- ¹⁷¹ Maddie's Shelter Medicine Program at Cornell, www.vet.cornell.edu/maddiesfund/spayneuter/pediatric.htm.
- ¹⁷² Rowan AN & Williams J (1989). The success of companion animal management programs: a review. *Anthrozoos* **1** (2): 112.
- ¹⁷³ New Jr. JC, Salman MD, King M, Scarlett JM, Kass PH, & Hutchinson JM (2000). Characteristics of shelter-relinquished animals and their owners compared with animals and their owners in U.S. pet-owning households. *J. Appl. Animal Welfare Sci.* **3** (3): 185.
- ¹⁷⁴ Clifton M (2008). U.S. Progress vs. Shelter Killing, *Animal People* 2008: **July/August: 8**.
- ¹⁷⁵ Kustritz, Determining the optimal age for gonadectomy of dogs and cats, 1665.
- ¹⁷⁶ New, Jr. et al., Characteristics of shelter-relinquished animals, 193.
- ¹⁷⁷ Salman MD, New, Jr. JC, Scarlett JM, Kass P, Ruch-Gallie R, & Hetts S (1998). Human and animal factors related to the relinquishment of dogs and cats in 12 selected animal shelters in the U.S. *J. Appl. Animal Welfare Sci.* **1** (3): 220.
- ¹⁷⁸ Scarlett et al. The role of veterinary practitioners in reducing dog and cat relinquishments, 309.

- ¹⁷⁹ Chu K, Anderson WM, & Rieser MY (2009). Population characteristics and neuter status of cats living in households in the United States. *J. Am. Vet. Med. Assoc.* **234** (8): 1028.
- ¹⁸⁰ Wallace JL & Levy JK (2006). Population characteristics of feral cats admitted to seven trap-neuter-return programs in the United States. *J. Fel. Med. & Surgery* **8**: 280.
- ¹⁸¹ Scarlett, et al. The role of veterinary practitioners in reducing dog and cat relinquishments, 306-307.
- ¹⁸² Salman et al. Human and animal factors related to the relinquishment of cats and dogs, 212.
- ¹⁸³ Patronek et al., Risk factors for the relinquishment of cats, 585.
- ¹⁸⁴ Patronek et al., Risk factors for the relinquishment of dogs, 575.
- ¹⁸⁵ Patronek GJ (1996). Promoting successful pet ownership: challenges for shelters and veterinarians. Proceedings Shelter Veterinarian Educational Program. Denver, Colorado: American Humane Association, 3.
- ¹⁸⁶ Scarlett et al., The role of veterinary practitioners in reducing dog and cat relinquishments, 306.
- ¹⁸⁷ Ibid.
- ¹⁸⁸ Patronek et al., Risk factors for the relinquishment of cats, 587.
- ¹⁸⁹ Scarlett et al., The role of veterinary practitioners in reducing dog and cat relinquishments, 307.
- ¹⁹⁰ Ibid., 310.
- ¹⁹¹ New, Jr. et al, Characteristics of shelter-relinquished animals, 200.
- ¹⁹² Ibid., 187.
- ¹⁹³ Scarlett et al., The role of veterinary practitioners in reducing dog and cat relinquishments, 307
- ¹⁹⁴ Patronek, Promoting successful pet ownership: challenges for shelters and veterinarians, 8.
- ¹⁹⁵ Patronek et al., Risk factors for the relinquishment of dogs, 575.
- ¹⁹⁶ New, Jr. et al., Characteristics of shelter-relinquished animals, 193.
- ¹⁹⁷ Ibid.
- ¹⁹⁸ Ibid., 200.
- ¹⁹⁹ Patronek, Promoting successful pet ownership: Challenges for shelters and veterinarians, 8.
- ²⁰⁰ Ibid.

- ²⁰¹ Clark GI & Boyer GN (1993). The effects of dog obedience training and counseling upon the human-canine relationship. *Appl. Animal Behavior Science* **37**: 147-159.
- ²⁰² Salman et al., Human and animal factors related to the relinquishment of cats and dogs, 216.
- ²⁰³ Patronek et al., Risk factors for the relinquishment of dogs, 576-577.
- ²⁰⁴ Ibid., 579.
- ²⁰⁵ Patronek, Promoting successful pet ownership: challenges for shelters and veterinarians, 3.
- ²⁰⁶ Scarlett, The role of veterinary practitioners in reducing dog and cat relinquishments, 310.
- ²⁰⁷ Ibid.
- ²⁰⁸ American Veterinary Society of Animal Behavior Position Statement on Puppy Socialization, avsabonline.org/avsabonline/images/stories/Position_Statement/Puppy%20Socialization.pdf, 1.
- ²⁰⁹ Duxbury MM, Jackson JA, Line SW, & Anderson RK (2003). Evaluation of association between retention in the home and attendance at puppy socialization classes. *J. Am. Vet. Med. Assoc.* **223** (1): 63.
- ²¹⁰ Lord LK, Wittum TE, Ferketich AK, Funk JA, & Rajala-Schultz PJ (2007). Search and identification methods that owners use to find a lost dog. *J. Am. Vet. Med. Assoc.* **230** (2): 213.
- ²¹¹ Lord LK, Wittum TE, Ferketich AK, Funk JA, & Rajala-Schultz PJ (2007). Search and identification methods that owners use to find a lost cat. *J. Am. Vet. Med. Assoc.* **230** (2): 219.
- ²¹² Ibid., 213.
- ²¹³ Ibid., 219.
- ²¹⁴ Wenstrup J & Dowidchuk A (1999). Pet overpopulation: Data and measurement issues in shelters. *J. Appl. Animal Welfare Sci.* **2** (4): 307, 310.
- ²¹⁵ City of Calgary Animal and Bylaw Services, 2007 statistics (unpublished).
- ²¹⁶ Ibid.
- ²¹⁷ Hurley KF Saving lives while making a living: the private practitioner's role in preventing the euthanasia of companion animals. <http://www.sheltermedicine.com/documents/Saving%20lives%20while%20making%20living.doc>, 2.
- ²¹⁸ Ibid.

- ²¹⁹ Kidd AH, Kidd RM, & George CC (1992). Successful and unsuccessful pet adoptions. *Psychological Reports* **70**: 551.
- ²²⁰ Patronek GJ, Glickman LT, & Moyer MR (1995). Population dynamics and risk of euthanasia for dogs at an animal shelter. *Anthrozoos* **8** (1): 41.
- ²²¹ Neidhart L & Boyd R (2002). Companion Animal Adoption Study. *J. Appl. Animal Welfare Sci.* **5** (3), 180.
- ²²² Patronek et al., Risk factors for the relinquishment of dogs, 574.
- ²²³ Patronek, Promoting successful pet ownership: Challenges for shelters and veterinarians, 5.
- ²²⁴ Ibid.
- ²²⁵ Ibid., 7.
- ²²⁶ Patronek et al., Risk factors for the relinquishment of dogs, 579.
- ²²⁷ Patronek et al., Risk factors for the relinquishment of cats, 587.
- ²²⁸ Ibid., 586.
- ²²⁹ Patronek, Promoting successful pet ownership: challenges for shelters and veterinarians, 7.