



Chapter 4

**SPAY / NEUTER:
IT'S NOT JUST ABOUT KITTENS AND PUPPIES**

“Beginning early this century and accelerating in its latter half, the role of animals changed [citations omitted]. In the simplest sense, dogs and cats moved indoors. Dogs moved first. In Canada, where I was born and raised, many dogs lived outdoors, invited into the kitchen only on the coldest nights of winter. Dogs lived in yards. In the years after World War II this management system changed. Dogs moved into our homes, and our hearts. A generation later, cats followed.”

Bruce Fogel (1999), “The Changing Roles of Animals in Western Society: Influences Upon and From the Veterinary Profession.” *Anthrozoos* 12 (4), 234.

Spay/neuter programs were originally designed just to stem the overwhelming tide of kittens and puppies brought to animal shelters. The plan was simple: “Pet Overpopulation is the Problem: Spay/Neuter is the Solution.” It was remarkably effective. By 1998, a national survey found that kittens and puppies made up only 13% of all animals entering shelters in the United States. (More information about this survey is shown in the Appendix of *Replacing Myth With Math*, at Research Article # 3 on Pages 118-120.)

LESSON: Reducing the number of kittens and puppies that enter shelters is not enough to end shelter overpopulation. Unless the flow of adolescent and adult animals is greatly reduced, too, shelter intakes will still overwhelm a community's sheltering capacity.

Reducing the flow of kittens and puppies, though, would not have been enough to end overpopulation in the shelters included in this survey. Even if no kittens and puppies had been bought in at all, the number of adolescent and adult animals they received would still have overwhelmed them. More than one third of animals that entered were euthanized just to make space for incoming ones. In these shelters, pet overpopulation (when

shelters are inundated by an unmanageable volume of kittens and puppies) had been replaced by shelter overpopulation (when stray, lost, and relinquished animals combine with litters of kittens and puppies to overwhelm a community's sheltering capacity).

In the 1998 survey, the authors asked shelter directors what they would do if they had an extra million dollar to spend. Shelters said they would spend more money on subsidized spay/neuter programs than for any other purpose, such as owner education programs or building more shelter space. The authors questioned whether an increased investment in sterilization programs made sense, in light of the declining percentage of animals entering shelters that were kittens and puppies.

The shelters had it right. Surgical sterilization turns out to be as effective against shelter overpopulation as it has been against pet overpopulation. In 2004, the Michigan Department of Agriculture compiled intake and disposition statistics for all animal shelters in the state the year before. At the time, national surveys consistently found that only about two fifths of all dogs in the country remained sexually intact. If being intact had not affected the risk that a dog would end up in a shelter, intact dogs would have made up less than half of all dogs admitted to Michigan shelters that year. What happened was quite different. Almost four out of every five (79.1%) adult dogs that entered Michigan shelters in 2003 were intact.

It was the same for cats. More than four of every five (80.5%) adult cats that entered the shelters were intact (see Figure 7 on Page 28 of *Replacing Myth With Math*). A 1997 survey of Texas shelters found the same thing. More than four fifths of the dogs and cats that entered these shelters were intact. (More comprehensive breakdowns of Texas shelter statistics from this survey are discussed in the Appendix of *Replacing Myth With Math* at Research Article # 14 on Pages 133-134.)

Intact cats and dogs are much more likely to end up in a shelter because surgical sterilization does more than just make a household pet infertile. It also makes it much less likely the cat or dog will behave in ways that are not compatible with the new role mentioned by Dr. Fogel in the quotation at the start of this chapter: as a household pet and companion.

Hormone-driven pets can do several things that strain the relationship with their caretakers. People who operate spay/neuter programs soon see how frazzled their clients tend to be in the spring after their cats have gone into heat. Dogs and cats that have not been sterilized are much more likely to do undesirable or dangerous things, too, such as destroying household furnishings, soiling the house, or attacking other animals or people. For instance, an analysis of dog-bite injuries in the Portland, Oregon area found that an intact male was seven times more likely to have bitten somebody than one that had been neutered and that an intact female was ten times more likely to have bitten than one that had been spayed. (Details of this study are shown on Page 27 of *Replacing Myth With Math*.)

All of this makes it much more likely that a caretaker will eventually have had enough and bring an intact pet to a shelter. So it should come as no surprise that an intact cat or dog is much more likely to be relinquished to a shelter by its caretaker than one that has been spayed or neutered. (More information about the behavioral factors which increase the risk that an animal will be brought to a shelter by its caretaker is contained in the summary of Research Article # 9 in the Appendix of *Replacing Myth With Math* on Pages 126-127.)

Sterilization, then, keeps pets in homes. And it's better late than never. A shelter that fails to sterilize a relinquished pet prior to placing it only increases the risk it will be returned, perhaps for the same behaviors that caused it to be given up the first time. As W. L. Bateman pointed out, "If you keep doing what you've always done, you'll probably keep getting what you've always been getting."

CONVENTIONAL WISDOM: Once pet sterilization programs have reduced shelter intakes of kittens and puppies to a manageable level, they have done about all they can to help reduce shelter overpopulation.

FACT: Sterilization reduces the risk that adult cats and dogs will become homeless, too. A sterilized dog is half as likely to be relinquished to a shelter as one that has not been sterilized. Sterilization reduces the risk the risk a cat will be relinquished to a shelter by two-thirds.

SOURCE: 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.

GETTING TO ZERO: THE ROLE OF NON-SURGICAL STERILIZATION

Surgical sterilization brings behavioral benefits that protect a pet from being relinquished to a shelter or roaming away from home to join a free-roaming population. As a result, any non-surgical sterilizant must be more than a contraceptive. If it is to replace surgical methods in the management of household pet populations, it must also be as beneficial as surgical sterilization in reducing the troublesome or dangerous sex-hormone driven behaviors mentioned earlier that increase the risk an animal will be given up to a shelter. And it must reduce the risk a household cat will migrate away from home to the same extent as surgical sterilization.

Even if it does not take the place of surgical sterilization for household pets in the United States, an effective non-surgical sterilizant may be a better choice in situations where contraception is a greater concern than behavioral management, such as for feral cat populations. An effective sterilizant may make it possible to manage the size of these populations at far less cost and stress to the animals than surgical sterilization. It may also become the only practical option in other parts of the world which have limited veterinary infrastructure.

Sterilization has also proven to be the most effective way to manage feral cat populations. Unless steps are taken to reduce the migration of household cats, though, the beneficial impact of T/N/R programs will be quite limited. As researchers who studied several large-scale T/N/R programs in Rome put it, “the control of reproduction of owned pets is crucial to achieve control of the feral cat population.” (More information about this study is contained in the summary of Research Article #10 in the Appendix of *Replacing Myth With Math* on Pages 128-129.)

Fortunately, sterilization can play a critical preventive role here, too, by greatly reducing the number of household cats that migrate to join feral communities. More than 97% of all feral cats are sexually intact. Even though many caretakers allow their cats outside, sterilized housecats rarely leave home for good.

GETTING TO ZERO: THE ROLE OF STERILIZATION

In the 1970s, the increasing availability of pet sterilization turned the tide in the fight against pet overpopulation. Before that, the number of pets who lost their lives in shelters climbed relentlessly. As more and more people had their pets sterilized, though, fewer and fewer of them died in shelters. If that hadn't happened, today's shelter death toll would be many times higher than it is.

We now understand why pet sterilization was such a game-changer. Animals end up in shelters from many sources and for many reasons. Some are from unwanted litters, others are free-roaming, lost, or abandoned animals, and still others have been given up by their caretaker. They have one thing in common, though: Sterilization reduces the number of animals that become homeless in each case. Because it helps protect cats and dogs in so many different situations from becoming homeless, surgical sterilization deserves to continue to be our first line of defense against shelter overpopulation.