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Desexing clinics for dogs and cats including paediatrics

INTRODUCTION

Although desexing male animals (commonly referred to as neutering in the US) is one of the world’s oldest surgical procedures, surprisingly, aspects of it are still considered controversial. Despite centuries of performing the procedures, research is ongoing to try to determine the best age and procedures to perform and what short or long-term positive or ill effects exist. Widespread desexing, the creation of desexing clinics that can routinely desex large number of animals on any given day, and paediatric gonadectomy, or desexing of animals under the age of six months, were initiated in the United States by the animal welfare community in an effort to decrease the number of animals being admitted to and euthanized in shelters. Paediatric desexing has been safely and successfully performed in the United States for over 30 years. In order to have the greatest impact in reducing shelter intake and euthanasia numbers, the animal welfare community has embraced several different models for clinics including stationary, mobile and MASH type operations to increase public access to affordable surgery.

DEFINITIONS AND GENERAL CONSIDERATIONS

When discussing desexing of companion animals, it is important to sort through the language and myths in order to determine what is in the best interest of both companion animal pets and populations of animals found in shelters. In the United States, the desexing of a female animal is commonly referred to as a spay, or ovariohysterectomy, which is the removal of the ovaries and uterus. The desexing of a male animal is referred to as castration, neutering, or orchietomy, which is removal of the testicles. Neutering is also used as a generic term for desexing either a male or female animal. Desexing may also be referred to as sterilization or gonadectomy. For the purposes of this paper reference will sometimes be made to spay neuter clinics as well as desexing.

There has been a lot of confusion in both the veterinary and lay literature about the short and long-term benefits and detriments of each procedure. Consensus regarding the major health benefits of desexing a female dog or cat include a decreased risk of mammary gland tumors, elimination of ovarian and uterine cancer and virtual elimination of pyometras (infected uterus) if all ovarian tissue is removed. The major benefits of desexing a male dog include decrease in incidence of prostatic enlargement, and decreased roaming and fighting over bitches in heat. Although it is a common belief amongst veterinarians and laypeople, desexing a male dog does not reduce the incidence of prostatic cancer (it may actually increase it) or reduce aggression unless it was hormonally induced (also known as sexually dimorphic) behavior. Desexing a male cat results in reduced spraying and urine marking, reduced roaming and fighting over females, and elimination of the objectionable odor of urine. At least one recent study has made a positive correlation between longevity and desexing.
Some of the older negative myths about paediatric desexing contributing to male feline urethral obstructions and stunted growth have been dispelled. Recent studies have suggested that desexing an animal, especially those under 6 months of age, may have some detrimental effects. A cautionary note about some of the research is warranted because they were restricted to small populations of animals or certain breeds, and many concluded that further research is needed. It is known that, although it is multifactorial in its causes, desexed male and female animals have an increased risk of obesity; desexed male dogs have an increased risk of prostate cancer; desexed cats may have an increased risk of developing diabetes; desexed dogs may have an increased risk of cardiac and splenic hemangiosarcomas and osteosarcomas; and there may be an increase in cognitive decline in geriatric animals. It is beyond the scope of this paper to analyze all of the studies and data that have been presented in the past few years on this subject. Dr. Jan Scarlett, a shelter medicine expert and veterinary epidemiologist at Cornell University’s College of Veterinary Medicine, analyzed the paediatric neutering studies to determine their validity in a chapter on paediatric neutering in the second edition of the textbook “Shelter Medicine for Veterinarians and Staff” edited by Miller and Zawistowski. Dr. Margaret Root Kustritz, a veterinary theriogenologist (specialist in animal reproduction) wrote an article that appeared in the Journal of the American Veterinary Medical Association in 2007 entitled “Determining the optimal age of gonadectomy of dogs and cats”. This is a review of the veterinary literature regarding desexing to determine what the best age to desex an animal might be. In evaluating all the studies that compared risks for certain conditions between desexed and intact animals, it is important to look at the incidence of such diseases in each animal population to decide what the optimal age for desexing might be, or whether perform the procedures at all. For example in intact female dogs, the incidence of pyometra is 15.2% by four years of age and 23 to 24% by 10 years of age. In contrast, hemangiosarcoma, the most common cardiac tumor in certain breeds of dogs, has a reported incidence of 0.2%. Studies have shown that desexed female dogs reportedly have five times the risk of developing hemangiosarcoma compared with the risk for intact females. However, when balanced with the knowledge that pyometras are much more common in intact females and that the inability to pay for the emergency surgery may increase the risk of euthanasia, risk-benefit analysis shows that surgery should still be recommended for most female animals. It is often been said that pet overpopulation is responsible for the death of more companion animals than any other disease or condition in the US. In fact, some communities have enacted mandatory de-sexing of all animals released from the shelter in response to this deadly statistic. Veterinarians should make recommendations for desexing individual pet animals based on an overall risk assessment, but shelters that are charged with fighting pet overpopulation and reducing euthanasia have a bigger picture to look at.

PAEDIATRIC DESEXING
In order to have a meaningful impact on shelter intake numbers and to reduce the number of animals being euthanized in shelters, it became clear that shelters needed to undertake different approaches to desexing from that of the general private practitioner. One was to explore paediatric neutering, or desexing animals at a younger age than the standard recommendation of 6 months. Animals who were adopted from shelters were often not desexed by their new owners, despite having signed contracts that mandated the procedures. It was discouraging to see the unwanted offspring of adopted animals ending up at the shelter, and realizing that the shelter was actually contributing to the very problem they were trying to fight. In response to adopter non-compliance despite incentives and voucher programs, a decision was made to desex animals prior to their adoption. However, by adhering to the 6 month minimum age rule, intact puppies and kittens who would soon be capable of breeding were often released. It was also noted that both adopted and owned animals had accidental “oops” litters before the surgeries could eventually be performed. By desexing animals before they reached 6 months of age, unwanted pregnancies could be prevented. Paediatric neutering of shelter animals began in the late 1970s after a thorough search of the veterinary literature could not find any compelling medical reason to wait until these animals were 6 months of age for the surgery.

Paediatric desexing has several different definitions, but usually refers to desexing that is performed on animals between 8 and 16 weeks of age, although some veterinarians will perform the procedures on animals as young as 6 weeks of age. It has several other names such as prepubertal, prepuberal, or early age desexing. Some veterinarians use a weight limit of 1 to 2 kg rather than an age limit to determine whether or not they’ll perform the procedures.

PAEDIATRIC SURGERY TIPS
Many different anesthetic and surgical protocols have been recommended for paediatric surgery; the veterinarian should be aware of the characteristics of the pediatric patient in order to ensure their safety.

- Paediatric animals are predisposed to hypoglycemia and therefore should not be fasted for more than 4 to 6 hours prior to surgery. They recover very quickly from anesthesia and should be fed within an hour of recovery to maintain their blood sugar levels.

- They have a decreased ability to maintain body temperature and so external causes of heat should be provided such as heating pads, circulating warm water bottles, etc. Extra care must be taken to make sure that animals are not burned. The use of alcohol as part of the surgical prep should be avoided because it cools the skin.

- The descriptions of the surgical procedures will not be undertaken here, but it should be noted that because these surgeries take much less time than the conventional procedures, they are less expensive and less stressful on both the patient and the surgeon. No special equipment is required, but because the tissues are much smaller and fragile, tissue handling must be gentle and blood loss should be minimized. Because paediatric patients recover very quickly from anesthesia, they can go home the same day of surgery.

HIGH-QUALITY, HIGH-VOLUME SPAY NEUTER (HQHVSN)
Another discovery by shelters was that large numbers of animals (beyond what the average private practitioner could manage in their day-to-day practice) would need to be desexed in order to impact shelter intake numbers. Veterinarians began to specialize in just performing desexing, or spay neuter procedures as they will be referred to in this section. By doing so many procedures, these surgeons became so fast and efficient that many traditionally trained veterinarians viewed these spay neuter experts with suspicion, believing that in order to perform so many procedures so quickly, they must be taking shortcuts and placing their patients at risk by performing substandard surgery.
In 2008, the Association of Shelter Veterinarians (ASV) published a special report in the Journal of the American Veterinary Medical Association entitled “ASV veterinary medical care guidelines for spay neuter programs”. This report was the culmination of work by 22 veterinarians from academia, private practice, and spay neuter programs to define standards of care for spay neuter programs. They utilized their own expertise and scoured the veterinary literature to develop a document that would help dispel the notion that these spay neuter programs practiced substandard medicine. It was important that these programs were designated as high-volume, high quality, and put forth standards of care that did not exist even in the private practice arena. “High-quality, high-volume spay neuter programs are efficient surgical initiatives that meet or exceed veterinary medical standards of care in providing accessible, targeted sterilization of large numbers of dogs and cats in order to reduce their overpopulation and subsequent euthanasia. The goal was to instill confidence in the public to use spay neuter programs, promote acceptance of the practice by the veterinary profession, provide guidance for veterinarians involved in spay neuter programs, provide reference for use by state boards that regulate the practice of veterinary medicine, and allow funding agencies to determine if spay neuter programs provide an acceptable level of care. Specialized training in these techniques is provided for veterinarians and veterinary technicians by a mobile unit that is operated by the ASPCA and an organization called Humane Alliance that operates a stationary clinic in North Carolina.

GENERAL CONSIDERATIONS FOR DESEXING SHELTER ANIMALS

Several decisions need to be made when undertaking programs to desex shelter animals. It is impossible to cover all of them here but one question is will the shelter’s surgical program be restricted to shelter animals only or will accessible low cost services be provided for members of the community? This is an important question because if surgeries are restricted to shelter animals, it is unlikely to have an impact on shelter intake because the majority of animals in most communities are not adopted from the animal shelter. In some areas of the northeastern United States where intense efforts have been made to make affordable desexing widely available to the public, there is now a shortage of adoptable puppies. (This has resulted in the development of life saving transport programs that move puppies from areas where they are at risk of euthanasia to areas where there are shortages of puppies.)

Another important question to consider is whether the surgeries will be performed on-site or off-site. The actual surgeries tend to cost more if performed off-site (unless the veterinarian agrees to perform them at a discounted rate), staff have to be compensated for transporting animals, and there are costs associated with fuel, insurance and maintenance of transport vehicles and for follow-up postoperative care in case of complications. In addition, transport is stressful for animals. If animals are to be desexed on-site, consideration must be given to finding a suitable space within the shelter that can not only isolate surgical patients from the general shelter population, but can also meet the standards of veterinary regulatory boards; the cost of consumable items, support staff, employing or contracting the services of a veterinarian; and purchasing and maintaining equipment.

When desexing animals before adoption, regardless of whether it is on-site or off-site, protocols should be in place to ensure that the procedures are performed in a timely manner and do not result in an increase in the length of stay of animals simply because they are awaiting surgery. The longer animals stay in the shelter, the more likely they are to develop behavioral and physical health issues.

A third consideration for these programs is whether or not they will be targeted to populations that are most at risk for being relinquished to the shelter. GIS stands for Geographic Information Systems, which integrates hardware, software and data for capturing, managing analyzing and displaying all forms of geographically referenced information. GIS has the ability to map the shelter’s intake data to determine the area that serves as the source of most animal relinquishments. This data allows the shelter to make informed decisions about where intensive spay neuter efforts should be directed. By targeting the location of at risk populations of animals and tracking data over a period of time, it is hoped that there can be a maximum impact on reducing shelter intake.

SPAY NEUTER PROGRAMS

A variety of different spay neuter programs have been developed to meet the various needs of shelters and communities. Three models are profiled briefly below.

MASH style spay neuter clinics carry their equipment with them and travel to areas in need within a certain geographic radius to perform spay neuter surgeries at community centers or other designated locations. Animals are transported to these locations by shelter staff and owners and are met there by the MASH team. These programs have a low startup cost, a quicker startup time and utilize a core group of well trained volunteers to keep costs down. The most successful programs work with and assist multiple organizations. The challenge for these programs is that there is a lot of wear and tear on the equipment and staff, there has to be a home base to keep the equipment and vehicle, and there must be a reliable group of volunteers to call on. An example of this program is called Shelter Outreach Services (SOS) for short and information about this program can be found at http://shelteroutreachservices.org/

In-shelter spay neuter clinics can spay and neuter their animals prior to adoption, do not need transport, which saves in costs and stress on the animals, may be less expensive than some other options in terms of startup cost and may be able to also use the shelter facility to spay and neuter public animals. The downside to these clinics is that complying with all the practice standards that private practices must adhere to can be problematic and if there are concerns about disease transmission, separate housing must be provided if the public’s animals are going to be admitted. Access to an in-shelter spay neuter clinic can also be problematic if the public has difficulty obtaining transportation to get to the facility.
Mobile spay neuter clinics have the advantage that they can travel to populations in need so that accessibility is less of an issue, they are self-contained, and can be used for multiple purposes in addition to spaying and neutering, such as transporting animals during a disaster. Challenges for these programs are that it is expensive to buy and maintain the vehicle, requires a dedicated driver which is another salary to pay, the space to work in is usually small, a location to park the vehicle must be found, the cost of insurance and fuel must be added on and a separate recovery area for patients may be needed. Arrangements should be made with local clinics to provide postoperative care in the case of complications after the mobile clinic has left the area. Also, consideration must be given to how to handle animals whose owners may not pick the animals up by the time the clinic closes up and leaves. The ASPCA in New York City operates 5 mobile spay neuter clinics. Information about this program can be found at http://www.aspca.org/nyc/aspca-mobile-spayneuter-clinic

CONCLUSION
Paediatric desexing is an essential tool in the fight against pet overpopulation. It ensures the ability of shelters to neuter all animals before adoption, prevents accidental pregnancies, is faster, easier and less expensive, and patients have a shorter recovery and healing time. But the solution to the pet overpopulation problem does not rest with desexing clinics alone. They must be part of a program that includes responsible adoptions and education of the public to be responsible pet owners. In some countries, elective desexing is illegal and viewed as mutilation. In these countries, responsible pet ownership is practiced and euthanasia of large numbers of unwanted animals is not an issue. Intensive efforts are underway to develop an effective permanent, safe, inexpensive nonsurgical method of contraception for dogs and cats. Until such time that a product is available, safe and effective surgical procedures must be performed as part of a comprehensive program to help curb the euthanasia of adoptable animals.