

Updated Spay-Neuter Guidelines from the Associations of Shelter Veterinarians¹

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Introduction

Ovariohysterectomy and castration are two of the most commonly performed surgeries in small animal veterinary practice. Sterilization (spay-neuter) is viewed as the primary means to reduce the overpopulation of dogs and cats and to minimize shelter intake and euthanasia of homeless pets. High-quality high-volume spay-neuter clinics focusing on shelter animals and the pets of underserved populations have become common-place in the United States. The ASV recognizes that one of the most important things we can do for cats and dogs in our communities is to ensure that spay-neuter services are widely available and accessible to the animals that are most at risk of contributing to shelter impoundment. The ASV developed these spay-neuter professional guidelines to provide support to veterinarians working in spay-neuter programs and to promote consistent, high-quality care in all veterinary practice environments providing spay-neuter services.

History

The Veterinary Task Force to Advance Spay-neuter was first convened in 2006 with the support of PetSmart Charities and the ASPCA. The task force consisted of 22 veterinarians representing all disciplines and specialties relevant to spay-neuter: surgeons, anesthesiologists, internists, critical care specialists, epidemiologists, and practicing high-volume spay-neuter surgeons. The charge to the task force was to define high-quality high-volume spay-neuter as a legitimate veterinary practice area, develop practice guidelines for spay-neuter clinics, distribute training and recruitment strategies for spay-neuter clinics and to initiate epidemiologic studies on the impact of spay-neuter.

One of the products of that first spay neuter task force was the publication of “The Association of Shelter Veterinarians’ Veterinary Medical Care Guidelines for Spay-Neuter Programs” in the July 1, 2008 Journal of the American Veterinary Medical Association (JAVMA). Knowing that nothing in veterinary medicine is static the intent was to periodically update the guidelines to keep them current. Accordingly, the ASV reconvened a Spay-neuter task force in 2013 with the specific charge to update the Spay-neuter guidelines. Funding and support for the effort was again provided by PetSmart Charities and the ASPCA. This second task force consisted of 20 veterinarians with surgeons, anesthesiologists, internists, critical care specialists, and practicing spay-neuter surgeons represented.

The effort to revise the guidelines involved extensive literature searches, surveys of the ASV Board and membership, too numerous to count conference calls, two face-to-face meetings and thousands of hours of effort. After completion of the preliminary draft of the guidelines in late 2015, the draft was sent to the ASV for review and approval. Following ASV Board approval, final revisions were made and the document was submitted to the JAVMA in the spring of 2016. After two and a half years of effort “The Association of Shelter Veterinarians’ 2016 Veterinary Medical Care Guidelines for Spay-Neuter Programs” was published in the July 15, 2016 edition of the JAVMA.

The original guidelines consisted of four sections:

- . Guidelines for Preoperative Care,
- . Guidelines for Anesthetic Procedures,
- . Guidelines for Surgical Care, and
- . Guidelines for Postoperative Care

The revised 2016 version consists of six sections:

- . Guidelines for Patient Care and Clinical Procedures
- . Guidelines for Preoperative Care,
- . Guidelines for Anesthetic Procedures,
- . Guidelines for Surgical Care,
- . Guidelines for Postoperative Care, and
- . Guidelines for Operations Management

If people were to compare the two documents they would discover that some things are the same, some have changed slightly, some have changed significantly, and some in the 2016 version are brand new.

The ASV recognizes that high-quality high-volume spay-neuter (HQHVSN) programs serve underserved populations and provide surgical sterilization to animals most at risk for contributing to shelter impoundment and euthanasia. As such the ASV supports the continued development of HQHVSN programs and is committed to the delivery of high-quality care to each patient. The ASV seeks to encourage veterinary and public participation in HQHVSN programs, facilitate patient referral to such programs, provide guidance to veterinarians in HQHVSN

clinics and provide a reference for the veterinary profession including state boards, other governing agencies, veterinary professional associations and spay-neuter donors and funding agencies.

The guidelines were developed with the full understanding that there are numerous models of spay-neuter practice:

- . private small animal clinics,
- . stand-alone spay-neuter clinics,
- . mobile clinics,
- . MASH style clinics,
- . shelter spay-neuter clinics, and more.

The Task Force had to, therefore, balance keeping the guidelines broad enough to apply to all different models, while at the same time ensuring that they promoted quality care for each individual patient.

Guidelines for Patient Care and Clinical Procedures

Quality patient care during sterilization procedures begins long before the patient is placed on the surgical table. Appropriate patient housing, safe and humane animal handling, infectious disease control, accurate record keeping, and thoughtful contingency plans for emergency situations are all critical to the successful delivery of high-quality patient care.

Programs that provide animal transport must ensure a safe transport environment that minimizes animal stress. Animals are to be properly confined in the transport vehicle and animal enclosures should be secure. There should be appropriate heating, air conditioning and ventilation in the animal holding areas and animals should be periodically monitored to ensure their well-being.

Accurate recording keeping is essential to providing high-quality care. Records should comply with all federal, state, and local laws and regulations. At a minimum they should include the results of the physical examination, the body weight, the drugs administered including dosages and routes of administration, and the surgical procedure(s) performed. Standard operative reports are acceptable as long as they allow for additions or modifications.

Vaccinations are recommended prior to the day of surgery, but perioperative vaccination is safe and acceptable. Vaccination procedures should follow the guidelines established by the American Association of Feline Practitioners and the American Animal Hospital Association. Vaccination against rabies should be strongly recommended.

Just like in transport vehicle patients should be housed in a manner that is safe and minimizes stress. The should be adequate temperature control and ventilation. Species should be separated. Noise and other environmental stressors should be minimized. Housing units should be cleaned and disinfected between patients and a system must be in place to ensure accurate identification of each animal. Tractable adult animals should be in individual cages, runs or portable crates/carriers that allow for good visibility and adequate space to stand and turn around. Littermates or housemates can be house together. Intractable or feral animals should be housed in traps that allow for the administration of anesthetics with minimal handling. Animals are to be handled in a manner that minimizes stress. This includes carrying conscious manageable dogs that do not willingly walk on a leash and carrying conscious fractions and feral cats in covered traps or carriers. Special care should be taken when handling or moving sedated/anesthetized patients. The head and neck should be supported and maintained in straight alignment with the patient's body to promote optimal airway patency. The torso should be continuously supported.

Precautions must be in place to minimize infectious disease. All patients should be observed for any signs of infectious disease. Any patient that shows signs of infectious disease, but that is still consisted a safe anesthetic and surgical candidate, should be segregated from healthy animals and should be scheduled for surgery after the surgeries on non-infectious patients. Standard procedures for sanitation and containment of infectious diseases must be in place.

It is essential that all programs that perform spay-neuter be prepared to recognize and manage emergencies. Veterinarians should be available to triage and address and complications and should remain on the premises until all patients are extubated sternal, and responsive. Clinic staff / volunteers should be trained to recognize emergencies and designated clinical staff should be trained in CPR. Standard emergency equipment, drugs and reversal agents must be available and emergency drug charts should be accessible. Spay-neuter programs must have protocols and policies for managing complications and emergencies. Ideally, the program should handle its own reexaminations. Recognizing that in some situations that might not be possible contingencies for emergency veterinary care must be established in advance.

Guidelines for Preoperative Care

Ensuring that patients presented to spay-neuter programs are appropriate anesthetic and surgical candidates is essential. A veterinarian must be the individual that determines a patient's eligibility for surgery. This decision should be based on evaluation of patient history and physical examination. Communication is essential to ensure that the client understands the procedures to be performed and any associated risks.

To maintain quality, it is essential that patients be screened to ensure that they are safe anesthetic and surgical candidates. In all cases this determination must be made by a veterinarian. It is recommended that for owned pets it is best to schedule surgery between 4 months of age and sexual maturity. For pets in shelters surgery should be scheduled prior to adoption regardless of the age at adoption. When an animal is presented with a mild infectious disease or a non-infectious medical condition the veterinarian must weigh the risks and benefits of performing surgery. While some conditions might increase the risk of anesthesia or surgery in some situations the benefits of neutering may very well outweigh the risks. Often the opportunity to neuter certain animals may not present itself again so when the opportunity to neuter arises it generally outweighs the risks associated with minor conditions. It is generally safe to spay animals that are pregnant, lactating, in estrus or that have pyometra. Obviously, additional medical care should be provided if indicated.

Prior to any surgical procedure client communication is essential. For animals with an owner or agent a patient history must be obtained. This should include current health status, any clinical signs of disease, current medications or supplements, previous vaccinations, presence of any pre-existing medical conditions and any previous adverse reactions to drugs or anesthetic agents. Clients should be informed of the risks associated with surgery and anesthesia and must consent to the procedures.

Clients should be instructed on the appropriate amount of time to withhold food prior to anesthesia. Pediatric patients (6 to 16 weeks of age) can be fed a small meal 2 to 4 hours prior to surgery. Gastric emptying time is so fast that there is no reason to withhold food more than 2 hours and glycogen stores are so low that food should never be withheld for greater than 4 hours. For juvenile and adult patients, food should be withheld at least for 4 hours. While it is not necessary to withhold food for over 6 hours, overnight fasts are acceptable. The exception to the withholding requirement is when feral cats are caught in traps using food as bait. For personnel safety, it is not recommended that the food be removed from the traps. It is not recommended to withhold water prior to anesthesia and surgery for any patient.

A physical examination is required prior to surgery and must be performed either by a veterinarian or a veterinary student under supervision. With the exception of the anxious, aggressive or feral animal the physical examination should be performed prior to anesthesia. When the nature of the patient prevents a preanesthetic physical examination, the examination can be conducted after sedation or anesthesia. The physical should include verification of gender and reproductive status and body weight. Taking the patient's temperature or conducting preanesthetic diagnostic blood work is at the veterinarian's discretion.

Guidelines for Anesthetic Procedures

Safe and efficient anesthetic protocols should provide balanced anesthesia consisting of analgesia, loss of consciousness, muscle relaxation, and immobility without patient compromise. This requires proper drug selection, appropriate perioperative care, effective patient monitoring, and safe and effective anesthetic technique. Attention should be paid to patient thermoregulation, accurate anesthetic drug dosing, effective use of analgesics, and proper equipment use and maintenance.

It is important to maintain adequate body temperature and efforts to maintain temperature should begin at admission and extend to patient discharge. The recommended temperature range in housing units is 64- 84 degrees F. Housing should be free of drafts, animals should be kept dry and should be insulated from cold surfaces. During patient preparation it is important to avoid excessive hair removal or getting hair wet. This is especially important in pediatrics. Small incisions that limit exposure of the body cavity also helps to minimize heat loss. Active patient warming is recommended especially in pediatrics and smaller patients and can be achieved by using heated surgical tables, semi-conductive polymer heating blankets, circulating warm water blankets or warm air blankets. Precaution should be taken to avoid thermal burns such as can occur with blow dryers, heat lamps, drying cages, electrical heating pads, and hot water or heated materials. Such devices should be avoided to prevent injury.

Anesthetic equipment should be prepared and checked daily. A routine maintenance schedule should be maintained commensurate with volume of use. CO₂ absorbents should be checked and changed regularly and either active or passive waste gas scavenging systems should be used.

While O₂ supplementation is not required for all patients, spay-neuter programs must have the ability to provide O₂ supplementation and O₂ supplementation is recommended in brachycephalic, frail or ill patients and patients in advanced stages of pregnancy.

Routine intubation is not required for all patients, but the program must have the equipment and the ability to intubate when intubation is indicated by the condition of the patient, such as in the brachycephalic, overweight or obese patient and patients in advanced stages of pregnancy.

Administration of fluids is not required for all patients, but the program must have the ability to administer fluids when indicated by the condition of the patient, such as in the patient in advance stages of pregnancy or with pyometra, in cases of excessive blood loss and with prolonged surgery times. When administering SQ fluids it is recommended to give the fluids during the immediate postoperative period prior to recovery from anesthesia. This avoids the pain and stress associated with giving SQ fluids to the awake patient. When administering fluids to pediatric, small or frail patients the program should consider warming the fluids to normal body temperature prior to administration.

Patients should be monitored from the time of administration of pre-medications through anesthetic recovery. The most reliable means of monitoring is vigilant hands on monitoring of pulse quality, rate and rhythm, respiratory rate and pattern, jaw tone, and eye position, pupil size and palpebral reflex. The use of an objective monitoring device is also required. That could be doppler ultrasound, pulse oximetry, capnography or blood pressure. The use of pulse oximetry is highly encouraged. It provides an objective auditory and visual means of determine pulse rate and oxygenation.

There are numerous anesthetic protocols that are safe and effective. The selected protocol(s) should provide analgesia, stress reduction, immobility, muscle relaxation, and safe controlled reversible CNS depression. Accurate dosing of anesthetic agents is essential and one-size-fits-all dosing should be avoided. Dosing should be based on accurate weight measurement. In the case of the feral or aggressive animal in which an accurate weight cannot be obtained prior to sedation safety is increased by using reversible agents. The use of volume-by-weight charts is recommended to prevent calculation errors. For the very small or very large patient dosing based on body surface area or metabolic scaling is recommended.

The use of analgesics is required for all patients and should be administered prior to the initial incision. Total intramuscular anesthetic protocols in which a single injection includes sedative, analgesic, and anesthetic agents are useful and acceptable. Anticholinergic agents should be available in all spay-neuter programs, but their routine use is left to the discretion of the veterinarians.

Ideally anesthetic induction should be by IV or IM injection. The use of mask induction should be minimized. With mask induction loss of consciousness is poorly controlled, patient stress is increased and environmental contamination is increased. The use of a chamber for induction with inhalant anesthetic agents should be strictly avoided. Mask maintenance is appropriate on an as needed basis and, in fact, for feline surgeries that take less than 30 minutes mask maintenance may be safer than maintenance by intubation. If mask supplementation if frequent review and adjustment of the anesthetic protocol is warranted.

In all cases the anesthetic protocol to be used must be determined by the veterinarian. High risk patients may require alternatives to a standard anesthetic protocol. Intubation, drugs that are less cardiorespiratory depressing, reversible agents, supplemental oxygen and supplemental fluids should all be considered for the higher risk patients.

Guidelines for Surgical Care

Safe, effective high-volume spay neuter can be accomplished with the highest of quality by maximizing efficiency throughout every step of the process. The use of techniques that maximize efficiency while minimizing surgical trauma serve to reduce anesthetic and surgical times, resulting in fewer complications and improved patient recovery. Attention should be paid to the operating environment, aseptic technique, patient preparation and positioning and use of appropriate medical grade materials. There are numerous acceptable surgical techniques for spay and neuter and the selection of the specific techniques to be used should be based on surgeon's preference and the unique needs of each individual patient.

The operating room (OR) environment should be an area equipped for maintaining and monitoring anesthesia, performing surgery, and monitoring immediate postoperative recovery. Traffic in the OR should be restricted to essential personnel. The room and equipment should be routinely cleaned and sanitized.

Surgeries should be performed with properly cleaned and sterilized instruments. Separate sterile instruments are required for each patient. Instruments can be sterilized by steam, gas or plasma and the date of sterilization and the identity of the individual responsible for sterilization should be indicated on the surgical packs. Sterility indicators should be used both inside and outside of the packs. "Cold sterilization" techniques are not acceptable.

Patients should be prepped in a manner that promotes aseptic technique and maximizes patient safety and comfort. Emptying the patient's urinary bladder preoperatively simplifies abdominal surgeries and increases patient comfort postoperatively. A large enough area of skin should be prepped to allow for extension of the surgical incision if necessary, but small enough not to compromise patient thermoregulation. This is especially relevant in pediatric patients. Patients should be positioned in a manner that avoids compression of the thorax and hyperextension of the limbs.

Draping is required for all abdominal procedures and for the castration of adult dogs. Drapes should be large enough to prevent contamination of the sterile surgical field and drape material should be resistant to penetration by fluids and microorganisms. For cat and puppy castrations the use of drapes is left to surgeon's discretion. If drapes are not used care must be taken to prevent contamination of the surgical field.

Preparation of the surgeon must be appropriate for the surgical procedure(s) to be performed. The surgeon should wear appropriate surgical attire. For all abdominal procedures and for the castration of adult dogs surgical caps and masks must be worn, hands and arms must be scrubbed with an appropriate surgical scrub or must be washed followed by use of a waterless surgical prep agent, and sterile single-use surgical gloves must be worn. For cat and puppy castrations caps and masks are considered optional and the use of either single-use sterile surgical gloves or examination gloves are acceptable. The use of surgical gowns for all spay-neuter procedures is left to the discretion of the surgeon as long as aseptic technique is maintained.

Surgical procedures must be performed either by a licensed veterinarian or a veterinary student under supervision. Surgeries should be performed using Halsted's surgical principles:

- . gentle tissue handling,
- . meticulous hemostasis,
- . aseptic technique, and
- . minimal tissue trauma.

Small properly located incisions are recommended as they reduce tissue trauma, reduce surgical time, and minimize postoperative pain. The choice of suture patterns is left to the surgeon's discretion as both continuous and interrupted surgery patterns are considered acceptable.

There are many acceptable variations of the surgical procedures to sterilize female cats and dogs. The particular surgical procedure and its details, including the length and location of the surgical incision and ligation techniques, will vary depending on the program, the veterinarian's preferences, and the individual patients' needs. For female dogs and cats both ovariohysterectomy and ovariectomy are acceptable. Both ovaries must be removed. Use of the ovarian pedicle tie is acceptable in cats. In abdominal procedures ventral midline, paramedian and flank approaches are appropriate. Abdominal closure for ventral midline and paramedian incisions must incorporate the external rectus fascia. For the flank approach the closure must incorporate the transversus abdominus and internal and external abdominal oblique muscles. When spaying a pregnant dog or cat it is not necessary to euthanase the fetuses unless the uterus and amniotic sac are opened.

For castrations in dogs and cats the specific procedure again, may vary depending on program, surgeon's preference and patient's needs. Removal of both testicles is required. Both scrotal and prescrotal techniques are acceptable. With the prescrotal technique closure of the subcutaneous tissue and skin is required. With the scrotal technique closure is optional. When castrating the unilateral cryptorchid patient, the undescended testicle should be found and removed first.

Pediatric spay-neuter has been endorsed by the AVMA and other professional associations to help reduce overpopulation. The specific surgical technique used may vary with program, surgeon's preference and the individual patient's needs. Spay-neuter can be safely performed in patients as young as six weeks of age. In the shelter environment spay-neuter is recommended prior to adoption.

Suture materials and, if used, surgical clips must be biomedical grade, approved for medical use, sterile, and dated for current use. Antimicrobials are not considered necessary in routine spay-neuter of healthy animals. If used, antibiotics should be administered prior to the first incision or as soon as a break in asepsis occurs. Skin glue if used, must be used properly. The appropriate technique for use of skin glue is to close the wound and apply the glue on the surface of the wound. It is not appropriate to place skin glue within the wound itself.

Each spay-neuter program should choose a consistent, permanent means of visually identifying animals that have been neutered. The task force recommends the use of a simple green linear tattoo to identify all neutered pets and ear-tipping to identify all community cat. Identification of sterilized dogs and cats is recommended in all spay-neuter settings. In female dogs and cats a tattoo is placed on the ventral abdomen at the time of surgery. For male dogs a tattoo is placed lateral to the prepuce. Since the most common presentation of a sterilized male cat for surgery is as a female, it is recommended that the tattoo following castration of the male cat be in the same location (ventral abdomen) as the female cat. The tattoo method is left to the discretion of the veterinarian. Placement of tattoo ink/paste directly in the original skin incision, placement in a separate "scoring" incision adjacent to the original skin incision, and intradermal injection are all acceptable techniques. Use of an ear tip (not ear notch) is recommended for community cats.

Guidelines for Postoperative Care

Providing patients with a smooth transition from an anesthetized state to wakeful comfort for return to their home environments requires vigilance and diligent attention to detail. Patients should be assessed immediately after surgery to ensure that their individual needs are recognized and addressed. Recovery should be accomplished in a

location that allows direct patient observation and monitoring. Personnel should be trained to detect postoperative complications and should be skilled in appropriate intervention when complications occur. Appropriate use of analgesic agents is required, but is not a substitute for effective atraumatic surgical technique. Communication with clients regarding postoperative care and observation for postoperative complications is essential.

The majority of anesthetic related deaths occur in the postoperative recovery period. Patients should be assessed immediately after surgery. Postoperative recover should occur in an environment that minimizes risk of complication and staff injury. The environment should allow for continuous observation. Patients should be placed on a secure level surface that is dry, clean and warm with minimal noise. The patients should be positioned in a manner that prevents airway restriction. Pediatric patients can recover with littermates and community cats should be returned to their traps or carriers for recovery.

During the immediate postoperative period patients should be continuously observed for complications such as:

- . hemorrhage,
- . cardiorespiratory depression,
- . pain,
- . hypothermia,
- . distress,
- . anxiety,
- . vomiting,
- . regurgitation,
- . aspiration, and
- . any other abnormal finding.

Spay-neuter personnel should consider monitoring the following parameters during the immediate recovery period:

- . heart rate and pulse quality,
- . respiratory rate and character,
- . airway patency,
- . mucous membrane color,
- . signs of pain or anxiety,
- . body temperature,
- . degree of arousal/sedation,
- . movement, and
- . ability to ambulate.

Postoperative analgesia is required for all surgery patients. The specific dosage and duration of administration of analgesia may vary among patients and with the particular surgical procedure performed. Accordingly, a plan must be in place to address analgesia after patients are discharged to the owner/caretaker. It is imperative to recognize that postoperative pain medication is not a substitute for effective preoperative analgesia and minimally traumatic surgical techniques. If patients frequently show signs of pain, discomfort or self-trauma following surgery the analgesic protocols and surgical techniques should be reassessed.

The use of anesthetic reversal may be performed, especially in pediatric patients. Partial reversal of alpha 2 agonists is associated with shorter recovery times with no reduction in patient analgesia when a multimodal-anesthetic-protocol is used.

Animal's identity should be verified as they are returned to patient housing. While in patient housing periodic evaluation is necessary to observe for changes in mental status and overall condition. Pediatric, geriatric, frail or otherwise at-risk patients should be offered small amounts of food and water. Dogs should be walked as soon as they are able and cats should have access to an absorbent substrate in order to urinate. Community cats should be returned to their traps/carriers and the traps/carriers should be covered to reduce stress and elevated to allow urine and feces to fall through the wire bottoms and away from the patient.

Patients should be evaluated immediately prior to discharge. The wound edges should be clean, dry, and apposed. The patients should be able to maintain sternal recumbency, alert, and responsive. Dogs should be able to ambulate. Trapped cats should be returned to their environment when they are mentally alert, oriented, and able to ambulate.

Postoperative instructions should be given to the owner/caretaker in both written and verbal formats. The postoperative instructions should include at least:

- . Summary of procedures performed,
- . Normal and abnormal recovery behavior,
- . Signs of discomfort or pain,
- . Care and monitoring of the surgical incision,

- . When to offer food and water,
- . Exercise restriction, if any,
- . Medication instructions, if any,
- . Contact information for questions or concerns,
- . Changes in status requiring urgent veterinary re-evaluation,
- . Instructions for emergency care, and
- . Recommendations for ongoing veterinary care

Guidelines for Operations Management

High-volume surgical practices are realized by maintaining efficiency in every aspect of the operation, from patient intake to patient discharge. Operations management is a proactive approach involving continuous, strategic planning, control, and improvement in order to effectively and efficiently produce and deliver services. “Patient care is delivered in a series of coordinated ‘hand-offs’ in which defined tasks are performed in accordance with accepted medical guidelines.” Standard operating procedures and the use of checklists are recommended to ensure the highest quality of patient care. Data is routinely collected to allow periodic analysis and systematic improvement. Staff should be appropriately trained and personnel health and safety should be a priority with attention paid to perioperative ergonomics to maximize staff health, productivity, and long-term sustainability.

Process-oriented management involves defining all steps from intake to discharge. Patient care, then, becomes a series of “hand-offs from one activity to the next. All defined tasks should be performed in accordance with accepted medical guidelines. This improves the quality of patient care, reduces risk for the patient and the staff, maximizes patient outcomes and promotes efficient use of time and money.

The use of standard checklists is recommended. The use of checklists helps ensure consistent patient care and manages workflow in a consistent manner. Standard protocols and checklists should be flexible enough to meet specific unique needs of individual patients. The medical record can be structured as a checklist, thereby prompting appropriate actions, confirming completion of tasks and ensuring accurate documentation of everything that is done to each patient.

Systems should be in place to capture and analyze data. The systematic collection and analysis of data helps identify, characterize and track patient outcomes and becomes the basis for change in existing protocols or techniques.

Adequate staff training is necessary to ensure proper animal care and safety and staff well-being and safety. Structured training programs should be based on the standard operating procedures and protocol. Knowledge of and proficiency in required tasks should be demonstrated before a staff member is allowed unsupervised performance of tasks. Relevant continuing education should be encouraged and staff should meet all mandated CE requirements for licensure.

Leadership skills can be taught and such training should be considered for anyone in a leadership position. Program performance and employee satisfaction is increased when leadership values and empowers employees.

Spay-neuter clinics should foster a safe and healthy work environment. Efforts should be made to reduce environmental stress and unnecessary distractions. Loud noises unnecessary foot traffic, slamming cage doors, use of cell phones all increase work stress. Clinics should ensure chemical and biological safety, appropriate waste gas management and sharps disposal, attempt to minimize transmission of zoonotic diseases, physical injuries, and compassion fatigue and should strive to create a safe and supportive environment in which care for mental health issues is encouraged.

Clinics should pay attention to peri-operative ergonomics. Such things as alternating between standing and surgery, efficient gentle surgical techniques and appropriately maintained quality instruments all reduce musculoskeletal discomfort and are crucial for occupational safety and health.

Conclusions

Spay neuter programs have become an integral component of veterinary medicine and provide an essential service to communities; especially to at-risk and underserved animals. Spay neuter clinics are often the first exposure clients and patients have to veterinary medicine and become the gateway to veterinary services through full service veterinary practices. At present, these programs are the most effective approach for reducing impoundment and euthanasia in animal shelters. Following the ASV’s veterinary medicinal guidelines for spay-neuter programs will help maximize efficiency, while providing safe, high quality patient care.

The spay-neuter guidelines are to be considered a supplement to applicable laws and regulations. When there are differences the more stringent criteria should be followed.

The 2016 Guidelines are available at:

[Avmajournals.avma.org/doi/pdf/10.2460/javma.249.2.165](http://avmajournals.avma.org/doi/pdf/10.2460/javma.249.2.165)

Or

[Shelternet.org](http://shelternet.org) (Click on “Direct link to updated guidelines”)

References

1. Griffin B, Bushby P, McCobb E, et al. The Association of Shelter Veterinarians’ 2016 Veterinary Medical Care Guidelines for Spay-Neuter Programs, JAVMA, 249(2), July 2016.