What is...
High Quality, High Volume Spay/Neuter?

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Where Will We Go?

Association of Shelter Veterinarians’ Veterinary Medical Care Guidelines for Spay/Neuter Programs

How can recommendations best be put into practice?
Medical Guidelines for Spay/Neuter programs

The Association of Shelter Veterinarians
www.sheltervet.org
Task Forces and Committees
Veterinary Task Force to Advance Spay/Neuter
Medical Care Guidelines

Association of Shelter Veterinarians’ Veterinary Task Force to Advance Spay/Neuter

In December of 2006, 22 veterinarians met to address the need for increased capacity and a consistent level of care within spay/neuter programs.
ASV’s Veterinary Task Force to Advance Spay/Neuter

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.

Medical Guidelines for Spay/Neuter Programs

JAVMA article

Maintain high standards of patient care regardless of where spay/neuter is performed or which program model is utilized

Special Report

The Association of Shelter Veterinarians veterinary medical care guidelines for spay-neuter programs

Association of Shelter Veterinarians’ Spay-Neuter Task Force
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Medical Guidelines for Spay/Neuter Programs

Goals

- Promote acceptance of this practice area by veterinary profession
- Provide guidance for veterinarians involved in spay/neuter programs
- Allow funding agencies to determine if spay/neuter programs provide acceptable level of animal care
- Provide reference for use by state boards of veterinary medicine
- Instill confidence in public regarding use of spay/neuter programs

Medical Guidelines for Spay/Neuter Programs

Recommendations meant to enhance, not replace, state veterinary practice acts

Where differences exist between guidelines and state acts, veterinarians are encouraged to comply with the more stringent guidelines
What are you doing to save time?

HIGH volume must mean LOW quality
HIGH VOLUME must mean LOW quality

HIGH VOLUME → HIGH QUALITY

High Volume Leads to High Quality

- Very efficient systems
- Protocols to maintain standards
Medical Guidelines for Spay/Neuter Programs

Four sections of guidelines document

- Preoperative care
- Anesthesia
- Surgery
- Postoperative care

Preoperative Care

- Withholding food prior to surgery
  - Pediatrics to be fed 2-4 hours prior to surgery
  - Other animals: Fast minimum of 4 hours
- Water is not withheld prior to spay/neuter
- Is animal receiving any medication?
- Does animal have any health problems?
- Client consent
  - Acknowledging risk, authorizing surgery
- Establish medical record for each patient
  - To abide by DEA and state veterinary regulations
Preoperative Care

Standardized consent forms assist in collection of information and can be combined with medical record

Preoperative Care

Physical examination

• Verify gender/reproductive status
  - Intact female
  - Spayed female
  - Intact male
  - Neutered male
  - Cryptorchid male

• Body weight
  - Verified close to surgery
  - May be estimated in feral/fractious patients
  - Used to guide drug dosing
Preoperative Care

• Physical exam by veterinarian
  - Good medicine
  - Liability issues

• Focus of exam
  - Mucous membrane color
  - Hydration status
  - Heart/lungs
  - Hernias
  - External parasites
  - Body condition score
  - Infectious disease?

Preoperative Care

Some conditions may increase risk of anesthetic complications

In certain scenarios, the benefits of sterilizing animal may outweigh risks and spay/neuter is performed

Steps to mitigate risk of complications are recommended
**Patient Housing**

- Proper identification
- Adequate temperature, ventilation, stress reduction
- Good visibility of animal
- Adequate space & safety at various stages of sedation
- Pediatric littermates can be housed together
- Intractable animals in cages/traps that allow for administration of anesthetics without handling of animal

**Infectious Disease Control**

- Equipment and kennels cleaned and disinfected between patients with appropriate agents
- Staff to wash or sanitize hands between patients and litters
- Animals with any evidence of infectious disease should undergo surgery at end of day
Cleaning and Disinfection for the Spay/Neuter Clinic
Brian DiGangi
www.sheltervet.org

• Cleaning facility and equipment
• Preparation of surgical site
• Laundry
• Hand washing

Despite label claims, independent studies have shown quaternary ammonium compounds to be unreliable in activity against non-enveloped viruses such as canine parvovirus, feline panleukopenia & feline calicivirus
Anesthesia

Needs to achieve

- Pain control
  - Opioid
  - Non-steroidal antiinflammatory
  - Alpha2 agonist
  - Local anesthetic
- Stress reduction
- Muscle relaxation
- Unconsciousness

Anesthesia

Pain control

- Multimodal analgesia
- Preemptive administration of analgesics
Anesthetic/Analgesic Drug Dosing Chart

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<th>Drug #2 (ml (IM))</th>
<th>Drug #3 (ml (IM))</th>
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</tbody>
</table>

Anesthesia

Thermoregulation

- Reduce contact with cold surfaces
- Provide carefully protected contact with circulating warm water, heated containers, or use of forced hot air warming devices
- Avoid close contact with electric heating pads, blow dryers, heat lamps, drying cages
- Avoid excessive use of alcohol
Preventing Hypothermia

Rice Sock
**Anesthesia**

- **Monitor for depth of anesthesia**
  - Pulse quality, rate, rhythm
  - Respiratory rate and pattern
  - Jaw tone
  - Eye position and pupil size
  - Palpebral reflex

- **Mask/chamber induction to be avoided**
  - Highly stressful for patient
  - Bronchial irritation
  - Increased risk of aspiration of GI contents

- **Be prepared for emergencies**

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**Anesthetic Equipment**

- An equipment safety checklist to be performed prior to anesthesia on a regularly scheduled basis

- Inspection should include:
  - General machine inspection
  - Confirmation of oxygen supply
  - Breathing circuit check for leaks
Preparation of Animal for Surgery

Bladder expression for females prior to surgery
• Caution!

Preparation of skin
• Preserve skin integrity
• Wide enough shaving of hair to prevent contamination of surgical field
• Entire area disinfected with appropriate surgical scrub agent according to accepted patient preparation practices
Surgery

• Separate, sterile instruments for each patient
• Surgeon: Properly performed hand and arm scrub with appropriate agent
• Surgeon should wear cap, mask, and separate pair of sterile gloves for each surgery (sterile gown is optional)
Surgery

- Ovariohysterectomy and ovariectomy are acceptable
- Both testes and ovaries need to be removed
- Prescrotal and scrotal approaches for neuter are acceptable
- Gentle tissue handling, meticulous hemostasis, aseptic technique
- Either interrupted or continuous suture pattern is acceptable for abdominal closure

Surgery

Various surgical techniques allow for safe and efficient spay/neuter surgeries

Veterinary Seminars
In Spay-Neuter Surgery: Pediatrics
www.humanealliance.org
Fluid Therapy

- Consider fluids in patients predisposed to hypothermia, hyperthermia, or dehydration (pregnant, lactating, small, or ill patients)

- Goals:
  - Administer subcutaneously or intravenously during or immediately following surgery
  - Warmed fluids for those with hypothermia
  - Room temperature fluids for those with hyperthermia

Surgery

Permanent identification of animals as spayed/neutered

Choose a consistent means of identifying animals that have been neutered

TATTOOS

EAR TIPS FOR FERAL CATS
If your organization performs spays/neuters, are animals tattooed post-operatively?

Use the buttons on the right side of the screen to answer.

Click ✅ for YES
Click ✗ for NO
In early 1900’s, veterinarians advocated spaying bitches between 3 and 6 months of age, or even prior to weaning. Castration was done as early as 4 weeks of age.

More recently, 6 months generally considered to be standard recommendation for spaying/neutering puppies and kittens. Unclear from scientific literature how conclusion was reached.

*Defined as sterilization between 6 and 16 weeks of age*
Pediatric Spay/Neuter POLL

If your organization provides spays/neuters, does it spay/neuter cats and dogs between 6 and 16 weeks of age?

Use the buttons on the right side of the screen to answer.

Click ☑️ for YES
Click ❌ for NO

Endorsements: Pediatric Spay/Neuter

• American Veterinary Medical Association
• American Animal Hospital Association
• Cat Fanciers Association
Spay/Neuter Prior to Puberty

Prevents accidental litters

Spay/Neuter Prior to Puberty
Spay/Neuter Prior to Puberty

- Prevents accidental litters
- Greatly reduces risk of mammary tumors
- Surgery faster, easier, shorter recovery time
Spay/Neuter Prior to Puberty

Prevents accidental litters

Greatly reduces risk of mammary tumors

Surgery faster, easier, shorter recovery time

More cost effective

Allows shelters to spay/neuter before adoption

More cost effective

Prevents accidental litters

Greatly reduces risk of mammary tumors

Surgery faster, easier, shorter recovery time

More cost effective
Pediatric Spay/Neuter

Pediatric spay/neuter has been found safe in both short and long term for vast majority of patients

Decision to spay/neuter a cat or dog should be made in conjunction with a veterinarian who is knowledgeable of animal’s history and overall health

Pediatric Spay/Neuter

Spay/neuter programs often indicate...

Pediatric patient to be 2 pounds or 2 months old to be spayed/neutered

Veterinarian to determine if patient appears healthy and is good anesthetic/surgical candidate
Prevent Hypothermia

Pediatric patients are predisposed to hypothermia

- Lower percentage of body fat
- Decreased ability to shiver
- Low body weight and high surface area

Hypothermia can cause prolonged recovery time

Prevent Hypothermia

Warmth is preserved through...

- Housing of littermates together
- Reducing contact with cold surfaces
- Minimal clipping of hair
- Use of warm surgical scrub (not using alcohol)
- Carefully protected contact with heat source
- Limiting body cavity exposure
- Short surgical time
- Reversal of anesthetic agents at completion of surgery
Prevent Hypoglycemia

Pediatric patients are predisposed to hypoglycemia
• Have decreased glycogen stores

Can lead to seizures, weakness, prolonged recovery

Hypoglycemia can be avoided by ...
• Feeding patients small meal 2 hours before surgery
• Limiting pre-operative excitement
• Apply Karo syrup to gums when recovering
• Feeding patient small amount upon recovery
Gentle Tissue Handling

Pediatric Surgical Considerations

- Smaller incisions
- Less bleeding
- Less fat surrounding ovaries
- Fair amount of clear abdominal fluid
- Can use an feline ovarian pedicle tie or one ligature on ovarian pedicles
- Routine skin closure
- Less stressful for patient (...and VET!)
Postoperative Care

Minimize risk of complications...observe

• Heart rate/pulse quality
• Respiratory rate/character
• Airway patency
• Temperature in patients at risk for developing hypothermia or hyperthermia

Also look for

• Emergence delirium
• Hemorrhage
• Pain, stress
• Urination, defecation
Postoperative Care

Vaccination

- Vaccination is recommended prior to admission for spay/neuter, however perioperative vaccination is acceptable
- Rabies vaccination should be required and administered as mandated by state regulations
- Vaccination procedures should follow guidelines established by American Association of Feline Practitioners and American Animal Hospital Association
Postoperative Care

- Offer small amount water to all patients as soon as ambulatory
- Offer small amount of food to pediatric, geriatric, frail patients as soon as possible

Postoperative Care

- Dogs that are ambulatory (especially if they are staying overnight) should be walked to encourage urination and defecation (if safe for staff to do so)
- If cats are to held greater than 12 hours, a litter box should be provided after cat is ambulatory
- Traps housing feral cats should be elevated to allow urine and feces to fall through the wire bottom.
Postoperative Care

Important to determine when veterinarian can leave for day

Before release of patient
• Patient should be ambulatory with no signs of distress
• If possible, check surgical site

Review with animal’s caregiver
• Oral and written discharge instructions
Postoperative Questions/Concerns

Spay/neuter programs to establish policies for handling postoperative questions, complications, and emergencies within at least 48 hour period following surgery

- Staff member carries cell phone that receives calls
- Voice mail that is checked frequently
- Establish relationship with local veterinarian or emergency hospital who will see patients for recheck

Morbidity and Mortality Data

In the event of patient death, necropsy should be performed to establish cause

Program to identify

- Trends in deaths that occur during stay at spay/neuter program or following surgery
- Trends in post operative complications
  (Ex: Incision site infections, dehiscence, suture reaction)

Compare data collected from one year to the next and to other similarly structured programs
ASV website
www.sheltervet.org
contains supplemental information
to the Medical Guidelines
that were published in JAVMA

Additional Resources

ASPCA - National Spay/Neuter Response Project
www.aspcapro.org/what-is-the-asPCA-spay-neuter-project.php
Additional Resources

Humane Alliance ([www.humanealliance.org](http://www.humanealliance.org))
- Mentorship Program
- National Spay/Neuter Response Team
- Veterinary and Veterinary Student Training
- Instructional Videos
  - Veterinary Seminars in Spay/Neuter Surgery
  - Pediatrics
  - Ovariohysterectomy in Large, Overweight Dog

Additional Resources

Pediatric Spay/Neuter Laboratory
- North American Veterinary Conference
Determining the optimal age of gonadectomy of dogs and cats

Margaret Root Kustritz, DVM, PhD, DACT

www.avma.org/avmacollections/spay_neuter/
What are your
QUESTIONS?
COMMENTS?

COMING ATTRACTIONS FROM ASPCApro.org

www.aspcapro.org/webinars

• Municipal Agencies Share Their Life Saving Tips (Feb 28)
• Guidelines for Standards of Care in Animal Shelters (Feb 29)
• How You'll Save More Lives in the 2012 ASPCA $100K Challenge (Choose from 3 dates: March 5, 6, 8)
• Planning for Success: Life Saving Tips from the 2011 $100K Challenge Winner (March 7)
• Increasing Capacity for Spay/Neuter Before Big Events (March 8)