

PROVINCIAL OFFICE

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Dear veterinary colleague,

Thank you for your interest in pediatric surgery! Doing spay/neuter surgery on kittens and puppies at the age of 8 weeks/ weight of 1 kg is safe, easy and widely accepted for North American shelter animals. The BC SPCA has a 100% pre-adoption spay/neuter policy for dogs, cats, and rabbits. We follow evidence-based guidelines recommending pediatric (8-16 weeks) and juvenile (4-6 months) spay/neuter in shelter animals. These guidelines have been issued by a number of professional organizations including the AVMA, AAHA, American Humane Association, AKC, HSUS, and Canadian Veterinary Medical Association. Altering these animals as early as possible allows us to free up our foster homes and resources to help more animals.

From the CVMA Position Statement on Spay/Neuter: *The CVMA strongly supports early (6-16 weeks) neutering of cats and dogs at animal shelters. This ensures that all animals are neutered before adoption and do not contribute to ongoing animal overpopulation issues.*

Practitioners new to pediatric surgery often feel hesitant or apprehensive. Generally, this is due to small patient size and peri-operative concerns. We recommend that if you are new to pediatric surgery, you can begin by going through some of the resources attached, and then start with 4-5 month old puppies/kittens, then 3-month, then finally down to 2-month olds.

This document contains reference resources by topic, recognizing that every vet may have different questions about pediatrics. We think you will find these surgeries fun as the patients typically recover quickly. We are always here to chat or send additional info.

Thank you very much for helping our shelter animals,



Dr. Emilia Gordon
Senior Manager, Animal Health

Helpful Tips

Pre-Operative	Intra-Operative	Post-Operative
<ul style="list-style-type: none"> • Use low-stress handling • Examine all animals individually pre-op including accurate weight • Feed 2-4 hours pre-op; do not fast > 4 hours • House littermates together until surgery • Give pre-anesthetic pain medication • Use injectable induction agents (not gas induction) • Use testicular blocks for males and incisional blocks for females • Use warm prep solution and avoid alcohol based prep 	<ul style="list-style-type: none"> • Use gentle tissue handling and meticulous hemostasis • Consider single ligatures or pedicle ties for female kittens (pedicle ties not suitable for dogs). • Use scrotal technique for males (kittens and puppies) • Self-tie spermatic cords in male kittens and puppies • Leave 5 mm tags on ends of all cord and pedicle self-ties • Tattoo (ear, incisional, or adjacent to incision) all females and ideally all patients • Place a microchip • Keep patients warm 	<ul style="list-style-type: none"> • Keep patients warm • If slow recovery, check temperature, give Karo syrup or 50% dextrose on gums • House littermates together during recovery (immediately if monitored closely, or when they can stand) • Prescribe pain medication for several days • Disinfect equipment using a disinfectant effective against unenveloped viruses (Prevail, Virkon, etc.)

VIN: Conference Proceedings: Pediatric Spay/Neuter (overview) (VIN membership required)
<https://www.vin.com/members/cms/project/defaultadv1.aspx?id=8026018&pid=18559&>

Testicular blocks (recommended for all neuters)
http://www.vasg.org/intratesticular_blocks.htm

JAVMA spay/neuter guidelines for spay/neuter clinics (free access; helpful peri-operative info for pediatrics) <https://avmajournals.avma.org/doi/pdf/10.2460/javma.249.2.165>

Surgical Technique

VIN: ASPCA Spay-Neuter Alliance Video Library (VIN membership required to view)

<https://www.vin.com/members/cms/project/defaultadv1.aspx?id=&pid=16693&>

Pediatrics Video from above Video Library (51 minutes)

<https://www.vin.com/members/cms/project/defaultadv1.aspx?pid=16693&catId=91288&id=7795151&id=11&objTypeID=10>

Pediatric dog spay: 19:55

Pediatric dog neuter: 31:00 (scrotal technique)

Pediatric cat spay: 33:48 (pedicle tie)

Pediatric cat neuter: 44:00

Pedicle tie (ASPCA Pro) ~ 4 minutes

<https://www.youtube.com/watch?v=scutiRrHtQI>

Long-term risks

A number of large studies have looked at long term risks of pediatric surgery and found no significant adverse health consequences except for increased urinary incontinence in female dogs if done before 12 weeks of age. There are also some newer studies looking at age of gonadectomy in certain purebred dogs and potential increased cancer and orthopedic risks, however these did not differentiate between various surgical ages under one year, and more study is needed. We believe that for shelter animals, the benefits (individual and population-level) of pediatric surgery vastly outweigh the risks. For owned animals, we encourage owners and veterinarians to discuss the risk: benefit together to determine the best age for surgery.

Analysis of age at spay/neuter studies to-date

<https://www.aspcapro.org/blog/2017/04/12/decoding-spayneuter-research-part-1>

<https://www.aspcapro.org/blog/2017/05/17/decoding-spayneuter-research-part-2>

Available upon request:

JAVMA studies

Howe, Lisa et al, Long-term outcome of gonadectomy performed at an early age or traditional age in cats, JAVMA, V 217 #11, Dec 1, 2000

(263 cats; divided into <24 weeks vs > 24 weeks at time of surgery. No increase in physical or behavioural problems during 3 year follow up period).

Howe, Lisa et al, Long-term outcome of gonadectomy performed at an early age or traditional age in dogs, JAVMA, V 218 # 2, Jan 15, 2001

(269 dogs; divided into <24 weeks or > 24 weeks at time of surgery. No increase in physical or behavioural problems during 4 year follow up period, except for short term increase in viral disease in early neutered animals thought to be related to age while in shelter and increased susceptibility).

Kustritz, Margaret Root, Determining the optimal age for gonadectomy of dogs and cats, JAVMA, V 231 # 11, Dec 1, 2007

(Review of various studies on age at gonadectomy; recommends that animals housed in humane societies be altered prior to adoption and that for pets, that owners and their veterinarians weigh the factors together).

Spain, Victor et al, Long-term risks and benefits of early-age gonadectomy in dogs, JAVMA, V 224 # 3, Feb 1, 2004

(1842 dogs, animals altered <5.5 months vs 5.5 months to 1 year. Looked at a number of medical and behavioural issues and found that some were increased and some were decreased. Overall, in male dogs, benefits outweighed risks. In female dogs, delaying until after 3 months of age may be beneficial to reduce risk of urinary incontinence).

Spain, Victor et al, Long-term risks and benefits of early-age gonadectomy in cats, JAVMA, V 224 # 3, Feb 1, 2004

(1660 cats, altered at < 5.5 months vs 5.5 months to 1 year. Looked at a number of medical and behavioural issues and found that early age neutering caused a number of issues to decrease, especially in males. There was no increase in any serious medical problems associated with early neutering).