

Is Early Neutering Hurting Pets?

By Alice Villalobos, DVM

Early neutering has become the norm in the U.S. Some states are asking voters to pass initiatives requiring citizens to sterilize their pets no later than puberty. Overpopulation is the driver.

But what if large-scale studies found that early neutering jeopardizes the health of our pets?

What if we found enough epidemiological evidence that early neutering of pet dogs may open them to orthopedic, behavioral, immunologic and oncologic issues?

A veterinarian who treats canine athletes has raised questions about early neutering. In an opinion article, Christine Zink, DVM, Ph.D., Dipl. ACVP, weighs the advantages and disadvantages of early versus late neutering when considering the performance and health of canine athletes.

The article, "Early Spay-Neuter Considerations for the Canine Athlete: One Veterinarian's Opinion," appears on Dr. Zink's website. [Click here](#) to review the thought-provoking article and to look at the references.

Zink assembled 18 references to support her article. Some show that dogs spayed or neutered early are taller than dogs spayed at an older age. Zink notes that sex hormones have a role in bone density. She concludes that the structural and physiological differences in dogs neutered early may be the reason veterinarians are seeing a higher incidence of orthopedic disease such as CCL rupture and hip dysplasia than in dogs neutered after 5 1/2 months of age.

30-Year Campaign

For the past 30 years, our profession has urged the public to spay and neuter dogs and cats for a host of beneficial reasons, including population control and the avoidance of breast and testicular cancer. With client education and marketing, our profession has succeeded in making early spay-neuter programs our national custom, primarily for control of the population explosion.

Shelter medicine experts developed the concept of ultra-early neutering of kittens and puppies before adoption. This practice was embraced by thousands of rescue organizations across the nation, including the Peter Zippi Fund for Animals—founded in 1977 by yours truly—which has rescued and placed more than 11,600 animals.

Our organization looked at the data and felt that early spay-neuter was the best answer to address the horrible situation in American shelters, where animals are euthanatized because they were born feral, dumped or unwanted.

Mounting epidemiological evidence shows that we might be jeopardizing the well-being of pet dogs with the early neuter policy. The data are not persuasive for felines, but there are some issues with the size of the urethra in early neutered tom cats that may affect their health.

My special interests in practice have been cancer medicine and pet hospice. It is earth shattering to consider that some of the cancers we have been battling may have been enhanced by early neutering instead of the reverse!

Zink points out a retrospective study published in 1999 by Ware, et al, that found a five times greater risk of cardiac hemangiosarcoma in spayed vs. intact female dogs.

Hemangiosarcoma is one of the three most common and devastatingly fatal cancers in larger dogs, especially German shepherds and golden retrievers. We see it most commonly as malignant growths in the spleen, but 25 percent of cases involve the heart and 25 percent appear in multiple locations.

Ware's study also found a 2.4 times greater risk of hemangiosarcoma in neutered dogs as compared to intact males.

This information has been around in journals for almost a decade, but it takes time to consider large epidemiological studies as evidence-based medicine useable in decision making.

A 2002 epidemiological study of 3,218 dogs done by Cooley and Glickman, et al, found that those neutered before age 1 had a significantly increased chance of developing osteosarcoma. Another study showed that neutered dogs were at a two-fold higher risk of developing osteosarcoma.

Lack of Proof

We need to re-examine the common belief that neutering dogs helps reduce prostate cancer. In fact, Obradovich, et al, in 1987 reported that neutering provides no benefit in protecting dogs from prostate cancer. Neutering definitely offers protection from recurrence of androgen hormone dependant perianal tumors.

Clear epidemiological evidence exists that female sex hormones cause mammary cancer. There is a slightly increased risk of mammary cancer in female dogs allowed to endure one heat cycle and the risk is increased with each additional estrus until the dog is 2 1/2 years old.

In dogs, 30 to 50 percent of mammary tumors are malignant. In cats, the rate of malignancy is 95 to 98 percent. Therefore, all mammary tumors in dogs and especially in cats should be surgically removed and biopsied as soon as they are detected. Early detection and excision can improve the prognosis.

It is well known that the incidence of urinary incontinence in early-spayed female dogs is higher than in non-spayed female dogs. This is due to the role that ovarian hormones play in the maintenance of genital tissues and urogenital contractility.

Aron, et al, in 1996, reported that male dogs neutered early had an increased risk of developing urethral sphincter incontinence. A health survey of several thousand dogs by the Golden Retriever Club of America showed that spayed or neutered dogs had a greater risk of hypothyroidism. In 2001, Howe and Slater reported an increase of infectious diseases in dogs spayed or neutered at or before 24 weeks of age versus over 24 weeks of age. The 2005 AKC-Canine Health Foundation reported a higher incidence of vaccines reactions in neutered dogs as compared to intact dogs.

The Vaccine Question

It is evident that we need more information and more leadership from our academicians to clarify our positions on early neutering. This reminds me of the profession's dilemma over the issue of using certain vaccines that were known to be potentially carcinogenic in 1 in every 1,000 to 10,000 cats.

If it was your cat that got feline vaccine-associated sarcoma, it is a huge and important issue. The actual rate of disease is difficult to assess and is most likely under-reported in pet animals, given the stringent requirements of informatics reporting.

Many organizations that breed service dogs, such as Guide Dogs for the Blind and the [Morris Animal Foundation](#) are keeping records that may answer these questions.

I suspect that the abnormalities discussed above are real and underreported in the veterinary literature. The best thing we can do is to advise our concerned clients individually, looking at each animal's role (agility, sports, jogging buddy, sled dog, service dog) within the human-animal bond.

Alice Villalobos, DVM, offers insights into the human-animal bond, animal welfare and the relationships among pets, owners and veterinary practitioners. She is a member of the American Assn. of Human-Animal Bond Veterinarians and is on the editorial review board of the Society for Veterinary Medical Ethics.