

Spay/Neuter: Debating Medical Standards

by Lisa Parshley, DVM, DACVIM

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Every now and then the veterinary profession queries or deliberates a medical principle. A very healthy behavior for a medical profession; to periodically question one's own traditions. For without evaluation custom becomes truth not science and morals do not evolve with cultural growth. Ultimately, debating medical standards prevents stagnation and improves the growth of medicine.

A perfect example of such a debate is the current questions being posed about spaying and neutering. At issue is when and if we should spay or neuter companion animals. The essential questions are whether our recommendations to spay and neuter early impact population control, behavior problems, and are there any health concerns in general surrounding this procedure.

The public opinion arena has been debating these questions for some time. Unfortunately, these discussions have been littered with equal amounts of fact and fiction. Some would say it's about time that the veterinary profession takes up these deliberations. In reality we have already opened these discussions, as evidenced by both editorials and scientific papers now appearing in our journals.

The issue of spaying or neutering is not a new or novel topic. European veterinarians have wrangled with this subject for years. And most companion animal veterinarians have to answer such questions from clients every day. What is unique about the current version of this debate is that the veterinary profession appears to still be searching for the right answer.

A lack of consensus is likely because this topic poses a very complicated scientific and ethical quandary. On the one hand are all the unwanted animals. On the other hand, are the reported potential health risks associated with the timing of spaying and neutering. And in between are all the potential behavior and surgical risks.

For many veterinarians, the central issue is and always will be population control of companion animals. For example, did you know that according to the ASPCA roughly 7.6 million animals (3.9 million dogs and 3.4 million cats) will enter a shelter each year. Roughly 31% (1.2 million) of the dogs and 41% (1.4 million) of the cats will be euthanatized.

Simply viewing statistics such as these it is easy to see why this aspect of the issue at hand is foremost in many, if not most, veterinarian's minds. When it is figured that every 20 minutes 108 homeless animals are euthanatized. And when the data suggests that only 10% of the animals on entering the shelter will be spayed or neutered.

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At the same time, is it reasonable to question whether early spay and neutering programs reduce shelter populations? Data is just beginning to be collated and published that may answer this question. Seeking an answer to this query could solve a portion of the debate or provide new avenues to approach in controlling the homeless animal population.

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Are there health risks associated with spaying or neutering before puberty? This is an excellent question and one I am sure is asked every day to most companion animal veterinarians. There is no doubt that when we spay or neuter early or immediately after puberty we are changing normal anatomy and physiology. For it is known that puberty signals most anatomic growth to begin slowing and eventually stop. Neutering and spaying before puberty is bound to influence the growth period and anatomic stature of an animal.

Impact of changing this normal programmed process could have far reaching effects on an animal's life. Some of these changes are

likely to be good (such as reductions in reproductive risks, behavior, or mammary carcinoma). Yet some of these alterations may contribute to chronic or late in life health concerns (such as urinary incontinence or orthopedic disease or possibly cancer).

Since we are just starting to address the issue of interrupting puberty or removing lifelong hormonal influences, science has not yet fully weighed in on this issue. What data we have accumulated is very intriguing and may provide far reaching changes in medical recommendations. It is my hope that we will continue to research this aspect as it could really help develop guidelines and provide education for families who adopt companion animals.

Yes, we have started the conversation and debate on what is the best recommendation for spaying and neutering. Without a doubt our growth in this arena will be fraught with sometimes heated debates and ethical quandaries. But if we continue to use our compassion for animals and accumulated science, we will push our profession and its standards into the future. Come participate in this debate Saturday, April 16 at Renton Technical College in Renton, Washington at the Washington State Veterinary Medical Association's VetMed Matters Conference on Spay and Neutering.

Onchocerca lupi Canine Infection in Washington State

by WSVMA

A veterinary ophthalmologist in western Washington recently diagnosed a confirmed case of *Onchocerca lupi* infection in an adult dog that presented with a scleral granuloma (Image 1). The dog had been imported to Washington from the southwestern United States approximately 1 year prior. The dog is currently being treated and appears healthy.

O. lupi is an emerging zoonotic parasite that infects dogs, cats, and

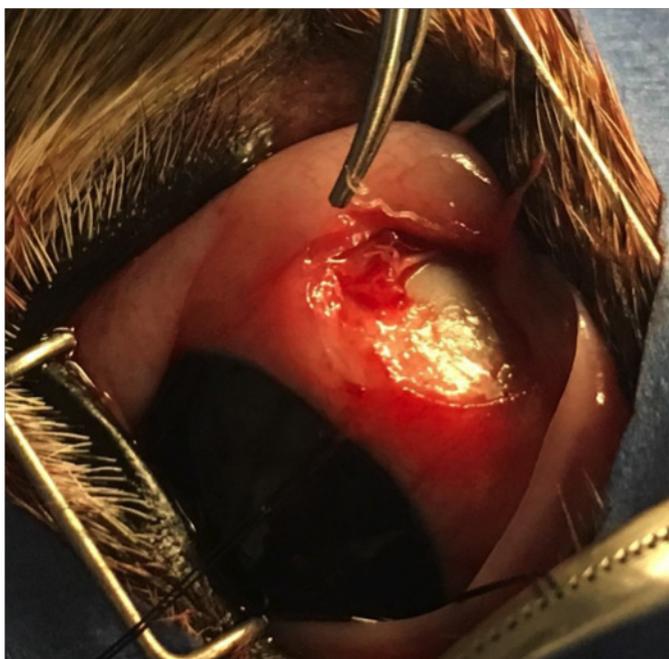


Image 1. Surgical removal of *O. lupi* nematodes from a scleral granuloma (canine). 2016 by Dr. AJ Marlar (image adapted with permission).

humans, and is transmitted by black flies (*Simulium* sp.). Canine *O. lupi* infections can manifest as an acute or chronic form, with the acute form being more commonly reported (1). Typical clinical presentation involves ocular nodules usually on the eyelids, conjunctiva, and sclera, though many asymptomatic canines have been found with microfilariae present in their skin (1, 2). Feline ocular onchocerciasis caused by *O. lupi* appears rare, with only one published case report describing two felines that presented in the United States with episcleritis and orbital cellulitis (3).

The epidemiology of canine *O. lupi* infections in the United States is not completely known, but current evidence suggests endemic disease transmission in the southwestern United States (1). At this time, it is unknown whether ongoing canine *O. lupi* transmission could occur in Washington State; black flies (*Simulium tribulatum*), a recently identified possible vector for *O. lupi* in southern California, are present in Washington State (4). Similar to heartworm disease

and mosquitoes, the black fly vector is required to transmit infective stage microfilariae from an infected animal to another animal or human. All available evidence suggests the risk of this occurring is very low. At this point, the Washington State Department of Health has received only a single report of *O. lupi* infection described above which appears to be imported (i.e., the dog was likely exposed to the parasite in Arizona or New Mexico).

Veterinarians should consider *O. lupi* infection in any canine or feline patient that presents with ocular nodules, especially patients with previous history of travel from the southwestern United States. Suspect cases should be reported to Dr. Ron Wohrle at the Washington State Department of Health (ron.wohrle@doh.wa.gov or (360)-236-3369). Consultation and/or referral of suspect cases to a board certified veterinary ophthalmologist for details on diagnostic and treatment protocols is recommended.

RESOURCES:

For more information on *O. lupi* including details on recently described human cases, see:

Cantey PT, Weeks J, Edwards M, et al. The Emergence of Zoonotic *Onchocerca lupi* Infection in the United States — A Case-Series. *Clin Infect Dis* 2015; doi: 10.1093/cid/civ983

REFERENCES:

1. Ontranto D, Giannelli A, Latrofa MS, et al. Canine Infections with *Onchocerca lupi* Nematodes, United States, 2011–2014. *Emerg Infect Dis* 2015 May [Feb 10, 2016]. <http://dx.doi.org/10.3201/eid2105.141812>
2. Otranto D, Dantas-Torres F, Giannelli A, et al. Cutaneous distribution and circadian rhythm of *Onchocerca lupi* microfilariae in dogs. *PLoS Negl Trop Dis* 2013; 7:e2585
3. Labelle AL, Daniels JB, Dix M, Labelle P. *Onchocerca lupi* causing ocular disease in two cats. *Vet Ophthalmol* 2011 Sep;14 Suppl 1:105-10. doi: 10.1111/j.1463-5224.2011.00911.x.
4. Hassan HK, Bolcen S, Kubofcik J, et al. Isolation of *Onchocerca lupi* in Dogs and Black Flies, California, USA. *Emerg Infect Dis* 2015; 21:789-96.

50 Years of Progress in Academic Veterinary Medicine

by Andrew T. Maccabe, DVM, JD, MPH

It's probably not a lot of time to stop and think about the educational institutions that prepared you for this wonderful profession – and remain an important part of your professional life in so many ways.

The success of our colleges and schools depends a great deal upon your understanding and support, so I'm grateful for this opportunity to tell you a little about the work of the AAVMC and this special moment in time for us.

The AAVMC is in the midst of a year-long 50th anniversary celebration. Our theme, "Fifty and Forward," was selected because we're pausing to honor our past, but more important, we want to look forward and ask, "What can we do to make the next 50 years better?"

The AAVMC was founded in 1966 with 18 U.S. and Canadian colleges of veterinary medicine then in existence. Today, 49 Council on Education (COE) accredited colleges of veterinary medicine are AAVMC members, including all of the 35 colleges and schools in the United States and Canada, as well as 14 colleges located in Europe, Australasia, Mexico and the Caribbean. Today, the AAVMC is internationally recognized for its high standards of excellence in veterinary medical education.

Based in Washington, D.C., the AAVMC collaborates with the AVMA and other allied organizations as it works to foster the success of veterinary medicine. Our motto, "The Future of Veterinary Medicine," is self-evident when you consider our core duty is to educate future generations of high-quality veterinarians.

You may be familiar with some of the AAVMC's major programs:

- The AAVMC operates the Veterinary Medical College Application Service (VMCAS), which provides a centralized application service for prospective students.
- The AAVMC annually compiles the Comparative Data Report, the most comprehensive summary of statistical information that exists concerning academic veterinary medicine.
- The AAVMC publishes the Journal of Veterinary Medical Education (JVME), which is the only refereed academic journal focused on academic veterinary medicine.
- The AAVMC works closely with the AVMA to develop support for our profession in Washington.

The organization is functionally structured to address its work in three major ways:

ANALYZES

The primary source of information about national trends in veterinary medical education, the AAVMC generates high-quality data and analyses that support evidence-based decision making and planning throughout the profession.

CATALYZE

The AAVMC convenes meetings for stakeholders and thought leaders like the Veterinary Educators Collaborative (VEC), the Primary Care Veterinary Educators (PCVE) and other groups that generate new ideas and approaches for creating progress in veterinary medical education and the profession.

ADVOCATE

As the voice of academic veterinary medicine, the AAVMC works with Congress, executive agencies like the National Institutes for Health, and the public to develop funding and create opportunities in veterinary medicine.

Through these systematic approaches, the AAVMC promotes progress in five overarching areas:

ACHIEVING EDUCATIONAL EXCELLENCE

The AAVMC inspires innovation and programs that ensure the highest standards of quality in our educational institutions and seeks to develop leaders for tomorrow's profession.

RECRUITING HIGH-QUALITY FUTURE PROFESSIONALS

The AAVMC gathers information regarding perceptions and behavior among prospective students and sponsors workshops, conferences, and meetings to promote the success of admissions personnel at member institutions.

ENHANCING DIVERSITY IN THE VETERINARY PROFESSION

The AAVMC works to achieve greater diversity within the veterinary profession by gathering, analyzing and sharing diversity-related data, and reaches out to under-represented groups with recruitment programs.

PROMOTING A ONE-HEALTH APPROACH TO GLOBAL WELLBEING

The AAVMC works in a variety of ways to foster One Health, which engages veterinarians, physicians and environmental scientists in a collaborative approach to promoting global health and wellbeing for people and animals.

FOSTERING PROGRESS THROUGH DISCOVERY

The AAVMC cultivates federal government support for basic and applied university research programs that foster animal and human health and encourages the development of the next generation of veterinary researchers.

I'd also like to tell you about our 50th Anniversary celebration. We've put together a collection of communication programs and special events to commemorate the occasion, and more importantly, shine some light on our profession. We've produced a special edition of the Journal of Veterinary Medical Education and commissioned former dean Dr. Don Smith from Cornell to write our history book. We've developed a major video as well as a snappy television PSA, and encouraged our deans to share them with you during state veterinary medical association meetings. You can see them online by visiting www.aavmc.org and clicking on the opening anniversary graphic.

We've invited our allied organizations to recognize our anniversary benchmark with a resolution or letter of commendation, and we're working with the Veterinary Medicine Caucus in the U.S. Congress on other recognition programs. Finally, to address our commitment to the future, we're planning an anniversary "Grand Initiative," which will be announced during our March 2016 annual meeting.

Why is all this important to you? Because our anniversary celebration is magnifying the value and importance of what veterinarians do every day in communities across the nation. By raising awareness among consumers, policy-makers, and government officials we're trying to build support for our entire profession. We sincerely hope what we're doing on the national and international level is creating a better operating environment for you.

The veterinary college serving your region is there for you in many ways: as a referral center, providing telephone consults, CE programs, pet memorial programs for your clients and other programs, it contributes to your success. In turn, many of you are involved with mentoring programs or work with lawmakers to support legislation and budget activity that helps your college. We are grateful for all you do.

On this anniversary and always, we are reminded of the critical importance of this most essential relationship. Thanks for letting me share a little about what we are doing.