

Veterinarian Survey of Sterilization Methods Provided and Knowledge of Long-term Health Risks

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INTRODUCTION

- Elective sterilization of pet dogs is a common surgical procedure performed in veterinary practice.
- The main benefit of sterilization is population control and the reduction in euthanasia of unwanted dogs.
- The most common methods for sterilizing female and male dogs are ovariohysterectomy (spay; which removes both the ovaries and the uterus) and castration (neuter; which removes the testicles), respectively.
- However, there is mounting evidence supporting the development of long-term health complications following with surgical sterilization with gonad removal.¹
- Gonadal removal results in the inability for gonadal steroid hormones to feedback upon the hypothalamus and anterior pituitary, and this results in a rapid increase in luteinizing hormone (LH) concentrations.²
- LH concentrations remain permanently elevated for the life of the dog.

OBJECTIVES

- The objective of this study was to determine if: (1) veterinarians were aware of the long-term health complications and (2) veterinarians were offering alternatives to traditional surgical sterilization.

METHODS

- 100 surveys were distributed during two companion animal reproduction lectures at the 2017 American Veterinary Medical Association (AVMA) convention and 120 surveys were distributed during four companion animal reproduction lectures at the 2018 AVMA convention.
- Surveys included 6 binary answer (yes/no) questions:
 1. Do veterinarians in your practice perform routine ovariohysterectomies (spays) and castrations (neuters) in dogs? **Figure 2**
 2. Do veterinarians in your practice perform hysterectomies (ovary-sparing spays) in dogs? **Figure 3**
 3. Do veterinarians in your practice perform vasectomies in dogs? **Figure 3**
 4. Do veterinarians in your practice perform intratesticular injections for chemical castration in dogs?
 5. Do veterinarians in your practice perform other methods of permanent/long-term sterilization in dogs? **Figure 4**
 6. Do veterinarians in your practice discuss the long-term health risks of traditional spays and neuters with dog owners prior to surgery? **Figure 5**
- Optional information requested from respondents included the state in which they practices and their email address.

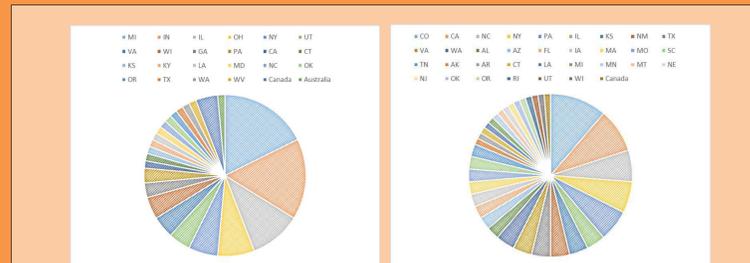


Figure 1: Location of respondents from the 2017 (left) and 2018 (right) AVMA survey.



Figure 2: Respondents performing routine spays and neuters from the 2017 (left) and 2018 (right) AVMA survey.

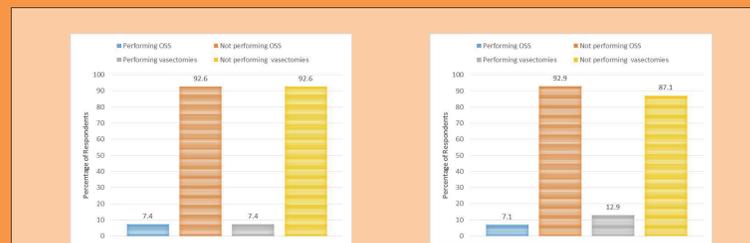


Figure 3: Respondents performing ovary sparing spays (OSS) and/or vasectomies from the 2017 (left) and 2018 (right) AVMA survey.

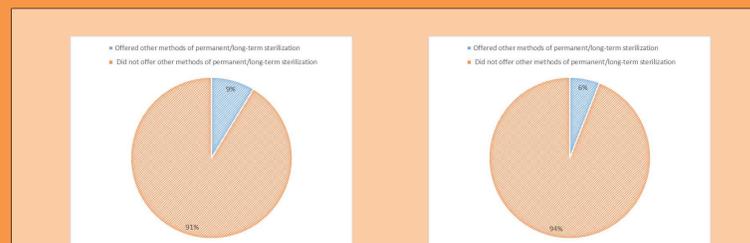


Figure 4: Respondents that offered other methods of permanent/long-term sterilization in dogs from the 2017 (left) and 2018 (right) AVMA survey.

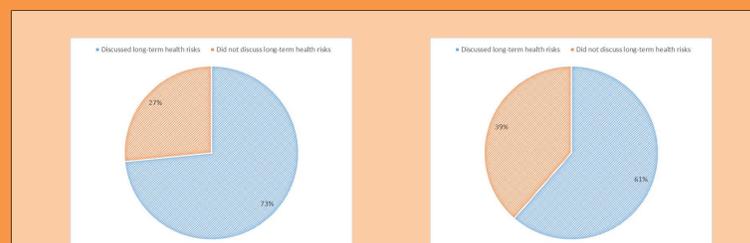


Figure 5: Respondents that discussed long-term health risks of traditional spays and neuters with dog owners from the 2017 (left) and 2018 (right) AVMA survey.

RESULTS

- The response rate was 81% and 83.3% in 2017 and 2018, respectively.
- Respondents were from several states (**Figure 1**).
- Nearly all of the respondents said they performed routine spays and neuters in their practice (**Figure 2**).
- Nine of those responding that they did not perform routine spays and neuters commented that they worked in a specialty practice (emergency (n=1 in 2017; n=3 in 2018), behavior (n=2)), a cat only clinic (n=1 in 2018), as a single practitioner (n=1 in 2018), or for the government (n=1 in 2017), or only performed spays with C-sections (n=1 in 2018).
- No respondents in 2017 and only 2 respondents in 2018 were performing intratesticular injections for chemical castration in dogs.
- In 2017, the same number of respondents reported performing ovary sparing spays (OSS) or vasectomies in dogs (**Figure 3**).
- It is of interest to note that only 3 of these respondents (3.7%) answered affirmatively to both questions.
- In 2018, more respondents are performing vasectomies than OSS (**Figure 3**).
- Similar to 2017, only 4 of the respondents in 2018 answered affirmatively to both questions.
- In 2017, slightly more respondents said that they offered other methods of permanent/long-term sterilization in dogs; whereas in 2018, slightly fewer respondents said that they offered other methods of permanent/long-term sterilization in dog (**Figure 4**).
- Six of the 2017 respondents and three of the 2018 respondents said they were offering ovariectomies and one of the 2017 respondents was offering tubal ligation.
- It is of interest to note that in 2017, one of the respondents offering ovariectomies and one of the respondents offering tubal ligations also offered ovary-sparing hysterectomies.
- In both years, the majority of respondents reported discussing long-term health risks of traditional spays and neuters with dog owners prior to surgery (**Figure 5**).

CONCLUSIONS

- The majority of veterinarians surveyed were aware of the long-term health risks of spaying and neutering and were discussing these risks with their clients.
- Fewer than 10% of veterinarians who are performing surgical sterilization are offering the option of OSS or vasectomy even though these surgeries are recognized by the AVMA as acceptable methods for surgical sterilization (<https://www.avma.org/public/PetCare/Pages/spay-neuter.aspx>).
- Future research will investigate reasons why more veterinarians are not offering other surgical sterilization options for pet dogs.

LITERATURE CITED

1. Zwida K, Kutzler MA. Non-reproductive long-term health complications of gonad removal in dogs as well as possible causal relationships with post-gonadectomy elevated luteinizing hormone (LH) concentrations. *J Etiol Anim Health* 2016;1:1.
2. Gunzel-Apel AR, Seefeldt A, Eschricht FM, et al. 2009. Effects of gonadectomy on prolactin and LH secretion and the pituitary-thyroid axis in male dogs. *Theriogenology* 71(5):746-53.