



PARSEMUS FOUNDATION

# Ovary-Sparing Spay

A way to address population concerns while avoiding the negative effects of hormone loss



## Background

Evidence is mounting that spays and castrations of dogs, especially when conducted early, are related to increased incidence of cancer and joint disorders – particularly in large breed dogs. Despite widespread recommendation for spay of female dogs before 1 year of age, a 2007 report indicated that benefits to traditional spay in female dogs were a decrease in incidence of mammary and ovarian tumors and pyometra, while detriments included aggression, osteosarcoma, hemangiosarcoma, urinary tract tumor, cranial cruciate ligament tear, obesity, diabetes and urinary incontinence (Kustritz, 2007). Additional breed-specific research has indicated that, at least for large-breed dogs, the benefits of maintaining hormones (lower incidence of cancer and joint disorders) likely outweigh the risks (mammary tumors and pyometra). For example, a 2013 study of golden retrievers evaluated two joint disorders and three cancers– hip dysplasia, cranial cruciate ligament tear, lymphosarcoma, hemangiosarcoma and mast cell tumor– and

showed that the disease rates were significantly higher in both males and females that were neutered either early or late compared with intact (non-neutered) dogs (Torres de la Riva, et al., 2013).

Pet overpopulation in the US remains a major concern, and increased spay and neuter programs have helped to decrease the number of dogs and cats euthanized each year. How do we maintain pet health while reducing the number of unwanted cats and dogs?

## A solution for female dogs

Ovary-sparing spay is a technique that removes the uterus but not the ovaries, thus preserving the hormones that have beneficial health effects. The procedure is slightly more complicated and time consuming than high-volume spay, but offers an alternative for owners concerned about the deleterious effects of complete removal of reproductive organs and loss of hormones.

Veterinarians trained in ovary-sparing spay make a slightly larger incision to be able to visualize the uterus, ovaries and cervix. The uterus is ligated close to the ovaries, the uterine horns are freed, and the cervix is completely removed. It is critical that all of the uterus and cervix are removed to avoid pyometra since the ovaries are still intact. “Stump pyometra” may result from incomplete removal of the cervix.

While the natural hormones appear to be protective for different cancers and joint disorders – depending on the breed – mammary tumors are still a concern. Owners may want to have regular mammary screenings done by their veterinarian.

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### For shelters and veterinarians

With ovary-sparing spay taking a bit more time, it won't replace routine ovariohysterectomy procedures used in high-volume spay/neuter programs. But potential adopters who are educated about the health consequences of spay may not consider shelter adoption because of concerns about long term health issues of traditional surgery - especially for large-breed dogs. If shelters provide the option of ovary-sparing spay, though, they may be able to attract and retain well-informed and desirable adopters. Veterinarians and shelters that offer ovary-sparing spay are likely to be in high demand as knowledge of recent research becomes more widely disseminated. If you are a veterinarian or shelter that offers this procedure, you may wish to be listed on the Parsemus Foundation website. Please contact us at [info@parsemusfoundation.org](mailto:info@parsemusfoundation.org) for more information.

### More information

For more information, links, and a video of a complete ovary-sparing spay procedure conducted by Dr. Michelle Kutzler, see <http://www.parsemusfoundation.org/ovary-sparing-spay/>



Full demonstration video available online

### References

- Kustritz, Margaret V. Root. (2007) *Determining the optimal age for gonadectomy of dogs and cats.* JAVMA, Vol 231, No. 11, December 1.
- Torres de la Riva G, Hart BL et al. (2013) *Neutering Dogs: Effects on Joint Disorders and Cancers in Golden Retrievers.* Accessible online: PLoS ONE 8(2): e55937. doi:10.1371/journal.pone.0055937

#### **Loie, a perfect example of the dilemma.**

Abandoned at the rural shelter with her litter of puppies, she was just starting her second heat when the rescue organization saved her. Remove her ovaries now? Since she has had two heats, this Lab/Rottweiler mix has already lost a fair part of the mammary cancer prevention of early spay. Furthermore, removing her ovaries could quadruple her risk of bone cancer, raise her risk of hemangiosarcoma to 10-20%, and increase her risk of CCL tears, incontinence and weight gain. But what if she could have a hysterectomy and keep her ovaries instead? She would still be sterilized— no more abandoned puppies— but maintain the health benefits of natural hormones. Everybody—the dog and the community—wins.



PARSEMUS FOUNDATION is committed to innovative and/or neglected medical research, with a focus on animal sterilants, contraceptive development, and breast cancer.