

## Early Spay & Risk for Mammary Tumors

While a majority of veterinarians may recommend spaying, greater disparity exists on the optimal age; approximately 16% of veterinarians recommend spaying before the first estrus cycle. A common justification for early spaying is the added benefit of protection against mammary neoplasia. In a review evaluating the association between mammary tumors and spaying or age at spaying, 13 reports addressed the association. Nine were judged to have a high risk for bias, and the remaining 4 to have moderate risk. An association between spaying and a reduced risk of mammary tumors was found in 1 study, but no evidence of an association was found in 2 other studies. Some protective effect of neutering on the risk for mammary tumors was noted in 1 study, but numbers were not presented. Because of limited evidence and risk for bias in published results, the evidence that neutering reduces risk for mammary neoplasia and age at spaying has an effect is not a sound basis for firm recommendations.

### ■ Commentary

Methodology used in this study may be unfamiliar, as it is more commonly used in human medicine. Cochrane Reviews (cochrane.org) are internationally recognized as high standards in evidence-based healthcare. Results of this study highlighted the need for quality research in veterinary medicine. Despite lack



of evidence found to support early spaying as preventing mammary tumors, veterinarians may continue to recommend it to prevent estrus cycles, unwanted litters, and pyometra. Clinical experience may suggest that early spaying decreases the risk of mammary tumors, but without additional well-designed trials, scientific evidence to support this is lacking.—*Ann Hohenhaus, DVM, DACVIM (Oncology)*

### ■ ■ Source

The effect of neutering on the risk of mammary tumours in dogs—A systematic review. Beauvais W, Cardwell JM, Brodbelt DC. *J SMALL ANIM PRACT* 53:314-322, 2012.

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See **Early-Age Spay & Neuter** by Dr. Phil Bushby at [cliniciansbrief.com/early-age-spay-neuter](http://cliniciansbrief.com/early-age-spay-neuter)

## Options for Rabbit Encephalitozoonosis

*Encephalitozoon cuniculi* infects a wide range of animals, including rabbits. The organism invades and infects the CNS, resulting in signs of vestibular disease. Positive antibody titers or CSF analysis can indicate infection; diagnosis can be confirmed by PCR-based spore identification in urine or by histopathology. In this study, investigators compared 2 different treatment protocols over 8 years. Between 2000 and 2003, 50 rabbits with confirmed or highly suspected infection were treated for 10 days with oxytetracycline (20 mg/kg SC q24h) with ( $n = 27$ ) or without ( $n = 23$ ) dexamethasone (0.2 mg/kg SC q24h). Between 2004 and 2008, 45 rabbits were treated for 10 days with oxytetracycline and fenbendazole (20 mg/kg PO q24h) with ( $n = 20$ ) or without ( $n = 25$ ) dexamethasone. All rabbits were hospitalized and provided supportive care; pre- and post-

treatment neurological examinations were performed. Antibody titers were positive in 93.7% of the rabbits and PCR was positive in 48.7% of 37 rabbits. Forty-six rabbits either died or were euthanized during hospitalization; *E cuniculi* was found in 40/40 rabbits postmortem. Among rabbits treated with fenbendazole was a statistically significant improvement in neurological scores, and rabbits were 1.6 times more likely to survive until at least day 10. Treatment with dexamethasone did not show effect on neurological signs or short- or long-term survival.

### ■ Commentary

Diagnosis of encephalitozoonosis in rabbits is frequently presumptive, and treatment can be protracted and unrewarding. This study reaffirmed the previous finding that benzimidazoles appear to provide

optimum treatment results. In practice, I have seen similar positive responses to benzimidazoles, although I exercise caution in monitoring patients because of risk for bone marrow suppression. Since neither oxytetracycline nor dexamethasone were found to change neurologic status or survival rates, these medications should be avoided in treatment unless there is a specific reason for inclusion (ie, suspected secondary bacterial infection).—*Sarah Churgin, DVM*

### ■ ■ Source

Clinical evaluation of therapeutic success in rabbits with suspected encephalitozoonosis. Sieg J, Hein J, Jass A, et al. *VET PARASITOL* 187:328-332, 2012.

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