



## Why Spay or Neuter Your Rat?

If you are a rat owner, chances are pretty high that you will be faced with a tumor at some point in your rat's life. "How high?" you might ask. Most studies show the incidence of tumors in rats to be somewhere around 87%. A recent Japanese study of Spague-Dawley rats puts the incidence at 76.7% for males and 95.8% for females.<sup>1</sup>

The three most common tumors of rats are mammary, pituitary, and testicular. Studies show a significant reduction of mammary tumor incidence in ovariectomized (spayed) female rats vs. intact females (4% vs. 83% in one study<sup>2</sup>)! There is solid evidence that spaying prevents most pituitary tumors as well.

Since a large majority of these tumors are not malignant, the standard has been to remove these lumps as they occur. The problem is, they come back—usually very quickly. That means another surgery, then another, and another. As the rat ages, surgery is a greater risk, and may not be a good option. Soon you are faced with making a decision about euthanasia, as the tumor grows out of control.

Most of the tumors in females are driven by estrogen. When we remove the main source of estrogen (the ovaries), the tumor factory shuts down. For male rats, neutering reduces the chance of testicular tumors to about zero. Surgery is most beneficial before the first tumor develops. Spaying at the time of tumor removal helps prevent recurrence of tumors as well, but increases total time of anesthesia; therefore, it increases the overall risk of surgery.

EEVC staff will be happy to answer any questions you have about your rat's health. We recommend having your rat spayed or neutered at 3 to 4 months of age. If you have an older rat, he or she can still have this preventive surgery. All animals should have a complete physical exam prior to any surgery. If you find a lump anywhere on your rat, please see a qualified veterinarian immediately.

Dr. Connie Kirk

<sup>1</sup> Nakazawa, M.; Tawaratani, T.; Uchimoto, H.; Kawaminami, A.; Ueda, M.; et al. *Spontaneous neoplastic lesions in aged S-D rats. Exp. Anim.* 2001; 50(2): 99-103.

<sup>2</sup> Hotchkiss, C. *Effect of Surgical Removal of Subcutaneous Tumors on Survival of Rats. J Am Vet Med Assoc.* 1995; 206(10): 1575-9.