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Use of Antibiotics in Patients Undergoing Surgery^{1,2}

Prophylactic use of antibiotics refers to antibiotics administered prior to surgery in order to prevent the emergence of postoperative infections. Perioperative use of antibiotics refers to antibiotics administered before, during, and after a surgical procedure, with the aim of eliminating an established infection. In either case, such use is aimed at bacteria known or expected to be found at the surgical site. The following provides an overview of our policy toward the use of antibiotics in patients undergoing surgery.

Antibiotics in general should only be administered when they are required, because, as medications, antibiotics introduce the potential for side effects. Perhaps more importantly, however; over-use of antibiotics can contribute to the development of antibiotic-resistant bacteria.

The risk of antibiotic resistance is taken into serious consideration at our hospital; therefore, when indicated, our veterinarians will select an appropriate antibiotic with the narrowest spectrum possible, directed at the specific bacteria expected to be found at the surgical site, and based on current research in both the veterinary and human medical fields.

Generally, patients should receive antibiotics if they are:

- undergoing surgery lasting longer than two (2) hours
- receiving a major implant (e.g., metal plate, cemented hip joint or other joint replacement)

Occasionally, however; our veterinarians may elect to prescribe antibiotics in other instances, to patients with a preexisting infection at the surgical site or who may be particularly prone to infection; this includes patients that:

- are geriatric
- are immunocompromised or have a generalized skin infection
- have a metabolic disease (e.g., diabetes)
- are undergoing surgery to the gastrointestinal tract
- are undergoing complicated fracture surgery and have extensive soft tissue trauma

While it may be surprising to learn your pet will not be receiving antibiotics prior to surgery, nor be sent home with antibiotics; there is overwhelming evidence that unnecessary antibiotic administration does not help prevent post-operative infections in most cases. Additionally, post-surgical infections can develop in patients who have received antibiotics. Moreover, routine use of antibiotics puts both you and your pet at risk for infections potentially resistant to all but the most potent antibiotics. Such excessive use of antibiotics contributes to the growing world-wide health crisis of antibiotic resistance.

If your pet is prescribed antibiotics, however; it is important they be administered specifically as directed by your veterinarian and printed on the prescription label. Please call us if you have any questions regarding your pet's prescription.

¹ Adapted from *Use of Antibiotics in Dogs and Cats Having Surgery at the Foster Hospital for Small Animals*. North Grafton, MA: Tufts University; 2013. http://vet.tufts.edu/thsa/resources/thsa_antibiotics.pdf.

² Adapted from Lörstad SR, trans. *Guidelines for the clinical use of antibiotics in the treatment of dogs and cats*. Stockholm, SWE: The General Assembly of the Swedish Veterinary Association; 2010. http://svf.se/Documents/Sällskapet/Smådjurssektionen/Policy_ab_english_10b.pdf.