

Guidelines for the Use of Prophylactic Antibiotics for Rodent Surgery

Antibiotics should **never be used as a replacement for good surgical and aseptic technique**. In general, if aseptic technique is adhered to, antibiotics at the time of surgery are not necessary.

Prophylactic use of antibiotics involves administering the carefully chosen antibiotic prior to surgery and continuing the antibiotic for a period of time following the surgical procedure. The choice of antibiotic, dose, frequency of administration and duration of treatment depends on many factors and Veterinary consultation should be sought to determine the best choice for the particular patient and surgery and to prevent the development of antibiotic resistance.

Exceptions warranting routine prophylactic use of antibiotics: Prophylactic antibiotics are warranted in certain situations:

- Surgery entering the gastrointestinal tract
- Surgery entering the urogenital tract
- Surgery on significantly immune compromised/immune deficient animals.
- Surgery involving a known infected area

Surgeries with greater rates of infection if strict aseptic technique is not adhered to include:

- **Surgical procedures lasting longer than 1 hour**
 - Since the rate of infection increases with the length of time of the surgical procedure, procedures lasting longer than 1 hour have a greater chance of infection.
- **Implantation of a foreign body**
 - Examples are vascular catheters or osmotic pumps
- **New surgeons**
 - New surgeons tend to take longer to do a surgical procedure, may break sterile technique and not be aware of it and may not be as gentle with the tissues as experienced surgeons.
- **Procedures involving deep muscle dissection, open abdomen or open thorax, orthopedic procedures**
 - These procedures are also associated with a higher incidence of post-surgical infections if strict aseptic technique is not followed at all times.

Animals undergoing these types of surgeries should be monitored closely for signs of clinical illness or infection after surgery and proper antibiotic therapy started if infection develops.

→It is highly recommended to **consult with a UBC Clinical Veterinarian** in order to choose the best antibiotic for your particular surgery and animal. **Using the same type of antibiotic for all situations is dangerous since it can lead to antibacterial resistance.** Parenterally administered antibiotics (injected) must be calculated based on the proper dose and accurate weight of the animal. Administering the same volume of antibiotic to all animals despite differences in weight should be avoided.