OPHTHALMIC DOSAGE FORM IN VETERINARY MEDICINE

Ophthalmic preparations are sterile aqueous or oily solutions, suspensions, emulsions, or ointments for topical administration by instillation.

Administering eye medications, such as drops and ointments to your dog, cat or other pet, is generally not difficult, but care must be taken to do it properly.

Ophthalmic medications can be used to treat infections, decrease inflammation, reduce pain, dilate or constrict the pupil, decrease the pressure in the eye from glaucoma, and produce or serve as more tears.

Ophthalmic solutions are usually isotonic and buffered, to minimize irritation to the eye.

All multidose eye preparations must contain a bacteriostatic agent. However, these cannot be used in the injured eye or during surgical intervention in the anterior chamber, because of possible irritation.

Ophthalmic suspensions should preferably consist of an aqueous vehicle containing a drug of low solubility.

The duration of action produced by a suspension is more prolonged than that from an aqueous solution.

Ophthalmic suspensions;

Their disadvantage is the possibility of irritation due to suspended crystals or particles.

Solutions and suspensions offer a number of advantages, however they are easily instilled, cause no interference with vision, cause few skin reactions, and do not interfere with mitoses of the corneal epithelium.

Ointments are semisolid dosage forms for external use, usually consisting of solid or semisolid hydrocarbon base of melting or softening point close to body temperature. After applying the ointment to the eye, it decomposes into small drops, which stay for a longer time period in conjunctival sac, thus increasing drug’s bioavailability.

Multiple generic antibiotics are used in a variety of eye ointments and suspensions for dogs, cats and other pets. Neomycin, polymyxin B, bacitracin, gentamicin, erythromycin, and tobramycin are antibiotics used singly and in various combinations to treat bacterial infections of the eyes and eyelids.

Ocular inserts, such as hydrophilic polymers and contact lenses, have been investigated for the long-term delivery of therapeutic agents including antibiotics in cattle.

In fact, polymers as simple as gelatin have been successfully used as methods for antibiotic delivery into bovine eyes.