ritation and massive histamine release. Because of this often fatal anaphylactic reaction, many veterinary ophthalmologists do not use neomycin-containing products in cats. Triple antibiotic with or without hydrocortisone is often used to treat conjunctivitis in the equine species.

Antibiotic therapy for corneal disease varies from prophylactic therapy to prevent infection to treatment of established corneal infections. Following an acute superficial injury to the cornea in the dog or horse, treatment with triple antibiotic ointment or drops 4 times daily is usually sufficient to prevent bacterial infection of the corneal stroma. Because of the potential for anaphylactic reactions in cats, gentamicin has become the first choice antibiotic for preventing microbial infection following injury or surgery in the feline species. Reevaluation of the patient 24–48 hours after the injury is indicated. Progressive edema, pain, and white opacification of the cornea (cellular infiltrate) would suggest that the antibiotic protocol (agent and frequency) has failed to prevent bacterial infection.

Post surgical prophylactic medical treatment usually involves triple antibiotic agents (except in cats in which gentamicin is generally used) because of their broad spectrum and because they are not agents used systemically. Four times daily treatment is recommended. Ointments are commonly used after surgery of the eyelids, conjunctiva or cornea. Eye drops are usually used following surgery of the cornea or anterior segment. Bacterial infection of the anterior chamber alone is uncommon. Bacterial endophthalmitis carries a poor prognosis for saving vision or the globe in animals and is usually managed surgically in people. Gentamicin is sometimes used for prophylactic therapy of the equine species because of a greater number of gram negative organisms in the environment of this species. Tobramycin and the quinolones would not be considered for prophylactic treatment following surgery performed under sterile conditions.

CHLORAMPHENICOL

(OPHTHALMIC)

(klor-am-***fen***-i-kole)

Indications/Pharmacology

A broad spectrum antibiotic, chloramphenicol has the ability to cross the corneal barrier and enter the anterior chamber. However, there are very few infections that occur in the anterior chamber and if bacteria are actually present there, the blood ocular barrier is lost and systemically administered antibiotics can achieve therapeutic levels.

Because of the potential toxicity associated with chloramphenicol to humans, chloramphenicol's use in veterinary ophthalmology is becoming less widespread. It may be useful, however, in treating cats with suspected Mycoplasma or chlamydial conjunctivitis.

Suggested Dosages/Precautions/Adverse Effects

For prophylaxis following surgery or for cats with Mycoplasma or chlamydial conjunctivitis: One drop (or 1/4 inch strip if using ointment) four times daily. For established corneal infection: Application may be very frequent (up to hourly).

Chloramphenicol exposure in humans has resulted in fatal aplastic anemia. For this reason, this drug should be used with caution in veterinary patients and some ophthalmologists avoid its use entirely. Clients should be cautioned to use appropriate safeguards when applying the drug and avoiding contact with drops or solutions after application.

Labels state to not use longer than 7 days in cats, but *tid* application of ointment for 21 days to cats did not cause toxicity. Must not be used in any food producing animal.

Dosage Forms/Regulatory Status

VETERINARY-LABELED PRODUCTS: None

HUMAN-LABELED PRODUCTS:

Chloramphenicol 1% Ophthalmic Ointment in 3.5 gm tubes; *Chloromycetin*® (Parke Davis); *Chloroptic*® (Allergan); generic (Rx)

Chloramphenicol 0.5% Ophthalmic Drops in 7.5 mL; *Chloroptic*® (Allergan); generic; (Rx). Refrigerate until dispensed. These products are sporadically available commercially and may need to be compounded by an appropriately trained compounding pharmacist.

CIPROFLOXACIN (OPHTHALMIC)
GATIFLOXACIN (OPHTHALMIC)
LEVOFLOXACIN (OPHTHALMIC)
MOXIFLOXACIN (OPHTHALMIC)
NORFLOXACIN (OPHTHALMIC)
OFLOXACIN (OPHTHALMIC)

Indications/Pharmacology

These fluroquinolone ophthalmic antibiotics are primarily useful for established gram negative corneal infections. They are not recommended for prophylactic use prior to or after surgery. See the main enrofloxacin/ciprofloxacin monograph for additional pharmacologic information.

Clinicians are strongly cautioned regarding the development of retinal neurotoxicity at or above the formerly recommended *systemic* enrofloxacin dosage in cats. There are no reports at the time of writing of retinal toxicity in cats administered topical fluroquinolone ophthalmic products.

Precautions/Adverse Effects

Ciprofloxacin may cause crusting or crystalline precipitates in the superficial portion of corneal defects. Other potential adverse effects with quinolones include: conjunctival hyperemia, bad taste in mouth, itching foreign body sensation, photophobia, lid edema, tearing keratitis and nausea. Allergic reactions have been reported with quinolone eye preps.

Dosage Forms/Regulatory Status

VETERINARY-LABELED PRODUCTS: None

HUMAN-LABELED PRODUCTS:

Ciprofloxacin 3 mg/mL drops in 2.5 & 5 mL btls; *Ciloxan*® (Alcon); (Rx)

Ciprofloxacin:Dexamethasone 0.3%:0.1% drops in 7.5 mL btls; *Ciprodex*® (Alcon); (Rx)

Gatifloxacin 0.3% drops in 5 mL btls; *Zymar*® (Allergan); (Rx)

Levofloxacin 0.5% drops in 5 mL btls, *Quixin*® (JOM Pharmaceuticals); 1.5% drops, 5 mL btls; *Iquix*® (JOM Pharmaceuticals); (Rx)

Moxifloxacin 5 mg/mL drops: 3 mL & 6 mL btls; *Vigamox*® (Alcon); (Rx)

Norfloxacin 3 mg/mL drops in 5 mL btls; *Chibroxin*® (Merck); (Rx)

Ofloxacin 3 mg/mL drops in 5 mL btls; *Ocuflox*® (Allergan); (Rx)