

# Chapter 11

## Eye

### 1 GENERAL INFORMATION

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#### 1.1 ADMINISTRATION OF DRUGS TO THE EYE

Eye drops are instilled into the pocket formed by gently pulling down the lower eyelid. Instillation of more than one drop should be discouraged because it may cause overflow. A small amount of eye ointment is applied similarly. When two different eye-drop preparations are used at the same time of day, patient should leave at least 5 minutes between the two. Eye ointment should be applied after drops.

#### 1.2 CONTACT LENSES

*Acanthamoeba keratitis* is a painful and sight-threatening condition. It is associated with ineffective lens cleaning and disinfection, the use of contaminated lens cases, or tap water coming into contact with the lenses.

Some drugs and preservatives in eye preparations can accumulate in hydrogel lenses and may induce toxic reactions. Therefore, lenses should be removed before instillation of eye preparations and not worn during the period of treatment, unless otherwise stated. Ointment preparations should never be used in conjunction with contact lens wear.

Some systemic drugs can also affect contact lens wear e.g. drugs which reduce blink rate (anxiolytics, antihistamines), drugs which reduce lacrimation (antihistamines, antimuscarinics), drugs which increase lacrimation (ephedrine and hydralazine), aspirin (appears in tears and can be absorbed by contact lenses—leading to irritation), and rifampicin and sulfasalazine (can discolour lenses).

### 2 ALLERGIC AND INFLAMMATORY EYE CONDITIONS

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Corticosteroids administered locally to the eye or given by mouth are effective for treating anterior segment inflammation. Other preparations used for the topical treatment of inflammation and allergic conjunctivitis include antihistamines, lodoxamide, and sodium cromoglicate.

### 3 DRY EYE CONDITIONS

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Chronic soreness of the eyes is associated with reduced or abnormal tear secretion, it often responds to tear replacement therapy. Hypromellose is the traditional choice of treatment; other preparations include acetylcysteine, carbomers, polyvinyl alcohol, sodium hyaluronate, and sodium chloride 0.9%.

### 4 EYE INFECTIONS

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Most acute superficial eye infections can be treated topically. They may be bacterial, viral, or fungal infections.

Most cases of acute bacterial conjunctivitis are self-limiting; where treatment is appropriate, antibacterial eye drops or an eye ointment are used. Viral infections (i.e. herpes simplex) are treated with aciclovir eye ointment, whereas fungal infections require specialist treatment.

### 5 GLAUCOMA

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Glaucoma describes a group of disorders characterised by a loss of visual field associated with cupping of the optic disc and optic nerve damage. Drugs that reduce intra-ocular pressure by different mechanisms are available for managing glaucoma. A topical beta-blocker (timolol or levobunolol), or a prostaglandin analogue (latanoprost or bimatoprost) is usually the drug of first choice for the treatment.

#### Prostaglandin analogues counselling

Before treatment, patients should be warned of a possible change in eye, which may be permanent. Changes in eyelashes can also occur; patients advised to avoid repeated contact with skin as this can lead to hair growth or skin pigmentation.