**Emergency management: exposure keratopathy**

Exposure keratopathy can result in destruction of the cornea and blindness if not treated urgently.

Exposure keratopathy (also known as exposure keratitis) is damage to the cornea due to dryness caused by incomplete or inadequate eyelid closure, resulting in loss or insufficiency of the tear film. It is usually a mild condition that is simple to treat. However, it can become an eye emergency in the following situations:

- In unconscious patients in intensive care units, when there is inadequate lid closure
- In patients with a facial nerve palsy, which causes paralysis of the eyelids
- In patients who experience a sudden bleed behind the eye (e.g., after a peribulbar or retrobulbar block)
- In patients who have a condition, such as a tumour, that pushes the eye forward and makes it impossible for the eyelids to close (lagophthalmos)
- Following severe damage to the eyelids (particularly the upper lid), such as trauma, burns or scarring from *Herpes zoster* infection
- If corneal sensation is reduced (e.g., following *Herpes zoster* infection). This makes the eye particularly vulnerable to exposure.

If the keratopathy becomes severe, there is a very high risk of irreversible blindness within a matter of hours or days, so treatment must begin immediately.

**Signs and symptoms**

In severe cases, the cornea will look dry and may ulcerate, leading to perforation. Patients will experience pain or irritation, foreign body sensation, burning, blurring of vision, watering, redness and sensitivity to light.

**Examination**

Assess lid closure and corneal sensitivity. Perform fluorescein staining of the cornea to assess for infection, thinning, scarring or perforation of the cornea.

**Management**

Aim to cover, protect and lubricate the cornea.

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**Equipment for preparation of antibiotic injections**

- 1 vial of 500 mg vancomycin or 1 vial of 500 mg (250 mg/ml) amikacin
- 1 vial of 500 mg ceftazidime
- 3 x 10 ml sodium chloride 0.9% injection (saline)
- 4 x 10 ml syringe
- 2 x 5 ml syringe
- 2 x 1 ml syringe
- 1 x sterile galley pot (for amikacin)
- 6 x 21-gauge needles for preparation of antibiotics
- 2 x 30-gauge needles for intravitreal injection

**Instructions for preparation of antibiotic injections**

**Vancomycin 1 mg/0.1 ml**

- Reconstitute 500 mg vial with 10 ml saline
- Withdraw all 10 ml into 10 ml syringe

**Ceftazidime 2 mg/0.1 ml**

- Reconstitute 500 mg vial with 10 ml saline
- Withdraw all 10 ml into a 10 ml syringe

**Futher reading**


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**Protecting unconscious patients**

Reach out to intensive care unit personnel to explain the dangers of exposure and encourage early detection and referral. Prescribe lubricating drops or ointments to all at risk.

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Further reading