EYE CARE FOR CRITICALLY ILL PATIENTS WITH INCOMPLETE EYELID CLOSURE

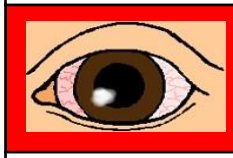
Every shift inspect:
- Eyelid position
- Eyeball surface

Incomplete eyelid closure

Grade 2 exposure: any part of cornea / iris (coloured) visible

Grade 1 exposure: only conjunctiva (white) visible

Are **COMPLICATIONS** present?

Bacterial ulcer	Perforation
	
Immobile white spot on cornea (cannot be rinsed off with saline)	Pupil may be distorted (stretched towards hole in cornea)

Yes

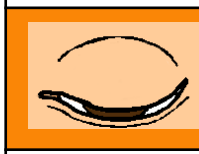
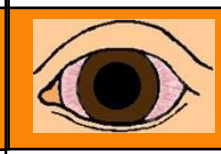
COMPLICATIONS: ACUTE EMERGENCY

Refer to ophthalmology immediately.

- Call eye casualty or on-call ophthalmologist via switchboard

no

Are any of the following **HIGH RISK FEATURES** present?

Grade 2 exposure (cornea visible)	Painful &/or red eye?	Any patient with incomplete eye closure nursed in a prone position
		
High risk even if only the lower edge of the cornea is visible		

Yes

HIGH RISK exposure

Eye ointment every 4 hours (blurs vision)

Close lids with horizontal tape (if conscious, leave better eye untaped)

Refer for ophthalmology review or advice

no

Grade 1 exposure with no high risk factors

MODERATE RISK Exposure

Unconscious patients: Eye ointment every 4 hours

Conscious patients: Hylotears every 2 hours + ointment before sleep

Refer for ophthalmology review or advice if concerns

OTHER EYE PROBLEMS IN CRITICALLY ILL PATIENTS

PAINLESS VISUAL LOSS

Retinal artery occlusion:
Hypotension, anaemia, vasculitis, prone nursing

Ischaemic optic neuropathy:
Hypotension, anaemia, vasculitis, prone nursing

Retinal detachment:
Head injury

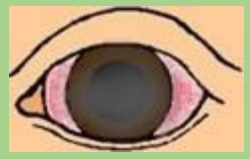
- Eye white.
- Pupil may be unreactive

ACUTE GLAUCOMA

Usually elderly or nursed prone

Usually severe pain, very blurred vision

- Eye red
- Pupil completely unreactive, & usually dilated
- Cornea hazy, iris may look blurred



BACTERIAL ENDOPHTHALMITIS

Septic / bacteraemic patients

Usually severe pain, very blurred vision +/- floaters

- Eye red
- Hypopyon: white horizontal pus level behind cornea

FUNGAL ENDOPHTHALMITIS

Fungal growth on blood culture or catheter tip

Asymptomatic, or visual blur/floaters

- Eye usually looks normal
- Red eye, hazy cornea in advanced cases

EMERGENCY: IMMEDIATE REFERRAL TO OPHTHALMOLOGY

Call eye casualty, or on-call ophthalmologist

Don't screen asymptomatic culture +ve*

Refer patients with blurred vision or red eyes

See Royal College of Ophthalmologists' guidelines on Eye Care in the ICU (2017) for additional details of assessment & management

* Eye 2018 32:1697-1702, JAMA Ophthalmol 2019 137:698-710

General aspects of clinical care

- The appearance of the eyes should be assessed at least once per shift for all patients, including those who are opening their eyes spontaneously.
- Frequency of assessment can be increased according to clinical judgment

Delivering treatment to the eye when it is prescribed

- Ointments include Lacrilube, Xailin night, VitaPos, simple eye ointment – all equivalent.
- When giving several different drops, do not give them at the same time as one drop may wash out another, thereby reducing effectiveness. **Allow at least 2 minutes between drops.**
- **Always put ointment in after drops**. The ointment is water repellent and prevents the drops from being absorbed by the eyeball.
- When cleaning the eye, wash away the previous ointment using warm water and gauze
- **Applying ointment: pull lower eyelid down and squeeze 1-2 cm of ointment onto the back surface of the lower eyelid.** Manually shut the lids to spread ointment over whole eye surface.

- **If taping is performed, ointment should be applied first**, the eyes fully closed manually and Micropore tape applied ***horizontally*** across the lids to seal them shut. **You must not allow the tape to touch the surface of the eyeball.** It is safer not to tape than to do so badly. Ophthalmology can arrange training if needed.
- **Hydrogel dressings** may be used instead of taping, if oedema prevents manual lid closure. Change once per shift. They **must not be allowed to dry out** – this can damage the surface of the eye.
- **Cling film** can be used as a safe alternative to tape or hydrogel to protect the eye – it does not cause damage if in contact with the eyeball. Apply a 10x10cm square over each eye, and change every shift. Never share a cling film roll between patients.