Best Practice Guidance – Eye Care

These recommendations are based on the current evidence and best practice at the time of writing and so will be subject to change as further developments are made in this field.

Aim

All patients will receive adequate and appropriate assessment and treatment to ensure that their eyes are clean and optimum comfort and function is maintained.

Introduction

Normal physiological mechanisms provide protection against eye injury and infection. The conjunctiva, the thin protective layer of epithelium that forms a mucous membrane covering the anterior surface of the eye, protects the eye from mechanical injury and infection. The cornea lies immediately under the conjunctiva and is essential to admitting and refracting light to the lens, and therefore vital to sight. As the cornea is avascular it is very slow to heal if injured. Severe conjunctiva injuries may cause opacity and blindness[1]. Although attention has been focused in prevention of nosocomial infections, comparatively little attention has been focused on the prevention of microbial keratitis[2]. The purpose of this guideline is to inform nursing practice related to the provisions of eye care in critically ill patients and thus minimise the prevalence of ocular surface disorders in this group of patients.

Potential Risks

The critically ill patient is more susceptible than most patients in developing eye problems, for the following reasons:

- Mechanical ventilation leads to the retention of body fluid, which in turn leads to increased venous pressure producing oedematous eyes.[3]

- Paralysis and sedation prevent patients from carrying out important physiological eye protection mechanisms[1]. The blink mechanism becomes diminished with the consequence that tears are not effectively dispersed over the eye.

[1] ***Laight S.*** *The Efficacy of Eye Care for Ventilated Patients; Outline of an Experimental Comparative Research Pilot Study. Intensive Critical Care Nurse. 1996.*

[2] ***Cortese D, Capp L, McKinley S.*** *Moisture Chamber Versus Lubrication. American Journal in Critical Care. 1995.*

[3] ***Joyce N.*** *Eye Care for Intensive Care Patients, A Systematic review No 21. The Joanna Briggs Institute for Evidence Based Nursing and Midwifery. 2002.*

- Critically ill patients have reduced tear production and dispersion which are important in the prevention of infection and the maintenance of the structural integrity of the eye.[4] Tears maintain a moist environment for the surface epithelium of the cornea, lubricate the eye lids, wash away foreign material and cell debris, and prevent adherence of organisms to the ocular surface. Tears contain proteins such as immunoglobulin, lysozyme and lactoferrin that inhibit bacterial growth.

- The side effects of some drug therapies are known to contribute to dry eyes; including atropine, some antihistamines and tricyclic antidepressants.

- Eye care is vital to prevent ocular complications such as exposure kerotopathy – incomplete closure of the eye.

Standards of Care

Check patients' assessment documentation for abnormalities normally present prior to proceeding with eye assessment and care, e.g. cataracts. An initial eye assessment should be undertaken within 2 hours following admission and at least every 12 hours [4].

ACTION: Check for existing abnormalities.

ASSESSMENT TOOLS

Table 1

Physical Feature	Assessment Tool	Observation
Eye Lashes	Visual Observation	Observe for stickiness, debris in lashes, lashes turning in.
Eye Lids	Visual Observation	Observe for trauma, oedema, and ability to open eye, lacerations or lower lid turning in or out.
Conjunctiva	Visual Observation, ask patient to open their eyes.	Observe for oedema, and any redness around cornea or all over. Sub-conjunctival haemorrhage.
Cornea / Iris	Visual Observation pen torch or ophthalmoscope	Check to see if the cornea is hazy, cloudy or foreign bodies present or iris is discoloured.
Pupil	Visual Observation pen torch or ophthalmoscope	Check pupil reaction, size, shape, white (possible cataract)
Anterior chamber	Visual Observation pen torch or ophthalmoscope	Check for blood flow or pus in anterior chamber. Is it shallow or flat?

[4] ***King DJ, Healy M.*** *Prevention of Eye Disease in Intensive Care - A Telephone Survey. . Intensive Care Medicine. 2003.*
[5] ***Johnson K, Rolls K.*** *Eye Care for Critically Ill Adults SHPN (ACI) 140005 NSW Agency for Clinical Innovation, Intensive Care Coordination and Monitoring Unit. 2014*

Table 2

Assessment Score	Recommended action
1. Adequate blink reflex and clear corneas	Reassess 6 -12 hourly.
2. Reduced or absent blink reflex.	Instil prescribed ocular lubricant and reassess 4 hourly.
3. Incomplete lid closure.	Use of eye pad and tape to close lids or instil prescribed ocular lubricant. Reassess 4 hourly
4. Crusting.	Clean with sterile water and reassess 4 hourly.
5. Corneal clouding/visibly dry eyes	Inform medical staff/ophthalmology doctor. Instil prescribed ocular ointment. Reassess 4 hourly.
6. Redness, discharge, Inflammation.	Inform medical staff. Use individual prescribed treatments.

The admission and ongoing assessment should include the risk factors for eye problems, the ability of the patient to blink and maintain complete eye closure, the evaluation of the eye and eyelid for cleanliness, corneal dryness or discolouration, eye care interventions and the effectiveness of those interventions.[5]

ACTION*:* Initial Eye assessment within 4 hours of admission

After the initial assessment and subsequent assessments using the above guides, follow the eye care flow chart and if appropriate provide standard eye care.[3]

Table 3

Standard Eye Care
Patient awake and able to blink;
1. Allow patient to perform own eye care (or with assistance when required) by cleaning eyes as part of the patient facial wash or at patients request. **2.** If eyes become sticky or encrusted use sterile gauze and saline / water.
Sedated/paralysed patient or difficulty blinking;
1. Clean eyes at least every 4 hours. **2.** Equipment needed - sterile gauze, sterile water (ampules), clean gloves, PPE and ocular lubricant if prescribed. **3.** Explain procedure, consent where possible. **4.** Clean trolley, preform hand hygiene and apply appropriate PPE **5.** Tilt head back where possible, AVIOD touching the delicate cornea **6.** Clean one eye and change gloves / equipment before cleansing the other to avoid cross contamination. (If one eye known to be infected – clean last) **7.** Clean from inner aspect of lids by the nose and sweep across the lids to outer aspect to prevent infection / debris being introduced into the lachrymal system, discard soaked gauze and repeat as necessary. **8.** Apply ocular lubricant/ointment as prescribed **9.** Document procedure in accordance with NMC standards

ACTION*:* Review a minimum of 12 hourly and deliver care as indicated

Eye Care Flow Chart