



Test your knowledge and understanding

This page is designed to help you test your own understanding of the concepts covered in this issue, and to reflect on what you have learnt. We hope that you will also discuss the questions with your colleagues and other members of the eye care team, perhaps in a journal club. To complete the activities online – and get instant feedback – please visit www.cehjournal.org

1. The BETTS classification has been introduced to standardise classification of ocular injuries. This simplified system can NOT be used to:	Select one
a Audit ocular injuries at a hospital	<input type="checkbox"/>
b Assist with visual prognosis in conjunction with the ocular trauma score	<input type="checkbox"/>
c Assess trauma with intraocular foreign body	<input type="checkbox"/>
d Describe chemical injuries	<input type="checkbox"/>
2. In assessing a patient with ocular trauma, the patient is most likely to be in a state of anxiety. What is the most appropriate action to take to manage the anxiety?	Select one
a Adopt a calm, sympathetic, reassuring and yet authoritative presence	<input type="checkbox"/>
b Take a quick visual acuity and make a prognosis	<input type="checkbox"/>
c Establish with some urgency who and what caused the trauma	<input type="checkbox"/>
d Provide intravenous analgesics/painkillers immediately	<input type="checkbox"/>

ANSWERS

1. d. BETTS is tailored to describe mechanical injuries to the eye globe. All definitions are in relation to corneal and scleral tissue penetration. It does not assist with classifying chemical injuries.
2. a. It is important to manage oneself first when trying to deal with another person's anxiety. Even if the eye injury is very bad, avoid giving that indication at the beginning, whether by what you say to the patient or to your colleagues. It is often necessary to stabilise the patient prior to any examination or the use of painkillers.

Ocular Trauma Score: case study and quiz

A 65-year-old man suffered an injury to the right eye, caused by a stone which ricocheted while using a weed cutter in his garden at home. He had not been wearing eye protection. At initial assessment when he presented to the hospital 17 hours following the injury, his visual acuity was nil perception of light (NPL). He had a corneal perforation and early signs of endophthalmitis, including mucopurulent discharge and anterior uveitis, were already present. A CT scan showed no intraocular foreign body. Answer the questions and then compare them with how the team approached the situation. See article on page 44.

- 1 What is the raw score?
- 2 What is the ocular trauma score (OTS)?
- 3 What would you say to the patient and his family?
- 4 How would you treat the patient?
- 5 What is the likely clinical and visual outcome if the infection cannot be controlled?

Case study courtesy of Desirée C Murray

ANSWERS

1 Raw score = 60 - 17 (endophthalmitis) - 14 (penetrating injury) = 29
2 OTS = 1
3 According to Table 2 (page 44), an OTS of 1 (the poorest prognosis) gives a probability of 73% that the final visual outcome will remain nil perception of light (NPL), and just a 1.7% probability that the patient would have perception of light (PL) at follow-up. From a clinical perspective, the presence of endophthalmitis, and VA of NPL at presentation, supported this finding and moreover suggests that the probability of regaining any vision is closer to 0%. The patient and their relatives had to be counselled with sensitivity (see page 50) about the prognosis.
4 In this instance, the team repaired the corneal full-thickness laceration and treated the patient with antibiotics (intravitreal vancomycin and ceftazidime; topical and oral moxifloxacin) and antifungals (intravitreal and topical amphotericin and topical natamycin).
5 Despite the above treatment, the infection failed to be controlled and the patient developed a corneal abscess. Having understood the extremely low probability of visual recovery and the risk of sympathetic ophthalmitis, the patient and his family accepted the need for removal of the eye and gave informed consent for the procedure. Evisceration of the ocular contents was performed 9 days after the injury.

REFLECTIVE LEARNING

Visit www.cehjournal.org to complete the online 'Time to reflect' section.

Picture quiz



Allen Foster

This is a picture of a 10-year-old boy who was hit in the eye by a stone.

Q1. What abnormality can you see on examination? (Select one)

- a. Corneal ulcer
- b. Hypopyon
- c. Orbital cellulitis
- d. Iritis
- e. Hyphaema

Q2. Which of these examinations/investigations would be appropriate? (Select all that apply)

- a. Ocular movements
- b. Examination of the pupils
- c. Slit lamp examination of the lens
- d. Measurement of intra-ocular pressure (IOP)
- e. Ophthalmoscopy

Q3. Which of the following may be indicated in treatment? (Select all that apply)

- a. Aspirin
- b. Immediate referral for surgical removal of the hyphaema
- c. Rest
- d. Acetazolamide tablets
- e. Annual check of intraocular pressure (IOP)

ANSWERS

1. e. The picture shows blood in the anterior chamber, known as hyphaema, which can occur after blunt injuries. **2. All of the tests are appropriate.** A blunt injury can cause a blow-out fracture of the orbit with entrapment of the inferior rectus muscle, causing diplopia and limitation of upward gaze. Blunt injuries can cause tears of the iris, whether iridodialysis or sphincter tears with traumatic mydriasis. The lens may be sub-luxated or dislocated by a blunt injury and there may be a concussion (traumatic) cataract. The IOP may be raised due to blood in the anterior chamber or damage to the trabecular meshwork (angle recession). Blunt injury can cause macula oedema or retinal dialysis.
3. c, d and e. Aspirin is contra-indicated as it may cause further haemorrhage to resolve. Rest is appropriate to allow the repair is not required, as most hyphaema will resolve without any further intervention. Rest is appropriate to allow the haemorrhage to resolve. If the IOP is raised then acetazolamide tablets may be indicated to reduce aqueous secretion. A hyphaema can cause damage to the trabecular meshwork, which increases the risk of glaucoma in the future. Annual IOP checks will detect glaucoma at an early stage, before it causes irreversible sight loss.