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An Evidence-Based Approach To Traumatic Ocular Emergencies

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This issue of *Emergency Medicine Practice* provides an up-to-date review of the appropriate evaluation of adults with blunt and penetrating ocular and periorbital injuries and offers evidence-based management recommendations. *For a more detailed discussion of this topic, including figures and tables, clinical pathways, and other considerations not noted here, please see the complete issue on the EB Medicine website at www.ebmedicine.net/topics.*

Key Points	Comments
Always maintain a high index of suspicion for open-globe injury. The patient will often, but not always, complain of pain and decreased visual acuity.	Globe rupture is a serious injury and a major cause of monocular blindness and must be treated promptly. In gathering data, remember that conjunctival lacerations may indicate underlying injury to the sclera and that hemorrhagic chemosis may indicate orbital fracture or open-globe injury.[14]
Always measure the intraocular pressure (IOP) – except in the suspected or obvious open-globe injury.	Low IOP may be seen in occult globe rupture or laceration, injury to the ciliary body, or retinal detachment. Normal or even high IOP does not rule out open-globe injury or rupture. Elevated IOP may occur immediately after contusion to the globe, in the presence of cells in the anterior chamber, mechanical angle closure, and with anterior dislocation of the lens.[14]
Patients with previous surgery or injury have a higher incidence of open-globe injury.	In a retrospective analysis of 100 consecutive open-globe injuries at a single institution, Man and Steel compared CART and OTS predictions with actual visual outcomes and calculated the sensitivity and specificity of each model. The variables most closely predictive of poor visual outcome were RAPD, poor initial vision, lid laceration, posterior wound, and globe rupture. [25]
Think of posterior segment injuries when presented with anterior segment injuries that resulted from a high-velocity insult such as an airbag.	Motor vehicle occupants 66 years of age and older were found to be 2 to 3 times more likely to incur an eye injury after airbag deployment. In addition, patients who have undergone refractive surgeries such as RK, PRK, and LASIK are also at an increased risk of posterior segment injury.[50]
Penetrating injuries in the rural setting have a higher rate of endophthalmitis.	The incidence of endophthalmitis after an open-globe injury has been reported to be between 3.3% and 16.5%. Traditional risk factors included delayed primary repair/wound closure, rural setting, presence of retained intraocular foreign body (IOFB), and disruption of the lens.[61,62] A recent large consecutive case series treated at 1 institution over 7 years showed a rate of endophthalmitis of 0.4% without IOFB and 3.2% with IOFB.[63]
Dog bites to the eye have a high incidence of canalicular injury.	A high index of suspicion needs to be maintained for any laceration/avulsion in the area of the medial canthus. Evaluation of the canalicular structures is performed by the ophthalmologist and requires an awake and cooperative patient. The repair may be carried out 24 to 48 hours after the initial injury. [68]

See reverse side for reference citations.

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These references are excerpted from the original manuscript. For additional references and information on this topic, see the full text article at ebmedicine.net.

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