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LETTER TO THE EDITOR:

Perioperative Corneal Abrasions from an Ophthalmologist's Perspective

by Dmitry Pyatetsky, MD, and Jeanine Baqai, MD

Perioperative corneal abrasion (PCA) is the most common ocular complication associated with nonocular surgery under anesthesia. While distressing to patients, the vast majority of PCAs are superficial epithelial injuries that predictably heal within 48–72 hours without permanent sequelae.[1] From a patient safety and systems perspective, routine ophthalmology consultation for *uncomplicated* PCAs is generally unnecessary and may introduce avoidable delays, excess cost, and inefficient use of specialty resources without improving outcomes.

A systems-based, anesthesia-led triage and management pathway allows timely recognition, appropriate treatment, and reliable escalation of care when indicated. For uncomplicated cases—characterized by intact globe, absence of red flags, and expected clinical improvement—management can be safely standardized using a streamlined, ophthalmic antibiotic–based protocol with supportive lubrication and symptom monitoring. Such protocolization aligns directly with the Anesthesia Patient Safety Foundation's mission to promote evidence-informed, high-value perioperative care.

Importantly, anesthesia professionals are well positioned to both prevent and manage PCA. Awareness of established perioperative risk factors—including lagophthalmos (the inability to close the eyelid completely), prolonged anesthesia duration, dependent eye positioning, and ocular surface disease—supports proactive prevention and early identification (Table 1).[1] Once injury is suspected, a focused assessment and protocol-driven response minimizes patient discomfort while preserving safety.

Clear escalation criteria are essential. Ophthalmologic consultation remains critical for patients with atypical features, concerning examination findings, or deviation from the expected healing course. Indicators such as persistent or worsening pain beyond 24–48 hours, visual acuity changes, corneal infiltrate, or signs of infection mandate prompt specialty evaluation (Table 2).[1] Embedding these criteria within standardized perioperative pathways ensures that patients who require ophthalmologic expertise receive it without delay.

Caution is warranted regarding routine use of topical anesthetics or topical nonsteroidal anti-inflammatory agents for pain control, and these agents should generally be avoided. Although studies exist in the literature supporting short-term efficacy,[1] these agents carry recognized risks, including corneal toxicity, delayed healing, and masking of clinical deterioration.[2,3] In most uncomplicated cases, oral analgesics combined with lubrication and reassurance provide adequate symptom control without introducing additional ocular risk. Caution should also be taken with contact lens wearers. Instead of erythromycin, fluoroquinolone coverage should be strongly considered in contact lens wearers given common colonization with pseudomonas aeruginosa.[4,5]

In summary, uncomplicated perioperative corneal abrasions can be safely managed without routine ophthalmology consultation using an anesthesia-led, antibiotic-based protocol with explicit safety escalation pathways. Such an approach improves efficiency, reduces unnecessary resource utilization, and—most importantly—maintains patient safety through structured triage and timely referral when indicated.

Table 1: Perioperative Corneal Abrasion (PCA): Key Risk Factors for Anesthesiology-Led Triage.

Domain	Risk Factors
Patient	Advanced age; dry eye disease; recurrent corneal erosion; prior ocular trauma; contact lens use; prominent eyes/proptosis
Anesthesia	General anesthesia; prolonged duration (>60–90 min); reduced tear production; loss of corneal reflex
Positioning	Prone, lateral, or Trendelenburg positions; dependent eye exposure; external globe pressure
Surgical	Head and neck surgery; prolonged procedures
Perioperative Care	Inadequate eyelid closure; lack of eye protection; oxygen mask trauma; postoperative eye rubbing

Table 2: Findings That Warrant Ophthalmologic Consultation (Safety Escalation Criteria).

Escalation Trigger
Significantly reduced visual acuity or persistent visual disturbance
Worsening or non-improving pain after 24 hours, especially in a contact lens wearer
Persistent pain beyond 48 hours
Failure of epithelial healing by 72 hours
Corneal infiltrate, ulceration, or suspected infection
Fixed, irregular, or dilated pupil
Hyphema or hypopyon
Suspected penetrating injury or foreign body
Corneal defect involving stroma
Dendritic fluorescein staining (possible herpetic keratitis)

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