

# LLU Perioperative Corneal Abrasion Protocol

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## Diagnosis:

- Symptoms
  - Stinging, burning, foreign body sensation in one or both eyes with associated blurry vision.
  - Difficulty opening the affected eye
- Physical Exam
  - Red or normal-appearing eye with tearing and light sensitivity
  - When to use proparacaine as a diagnostic tool:
    - If it is too painful for the patient to open their eye(s) for an exam.
    - In difficult-to-diagnose scenarios: Pain relief after proparacaine eye drops is suggestive of a corneal abrasion.

## Management:

- **See the patient in person. Talk to them about what happened and discuss the treatment plan.**
- Core Medications:
  - Erythromycin ointment: pea-sized amount applied directly to the affected eye QID x1 week.
  - Preservative-free artificial tears Q2H x1 week.
  - Systemic post-operative pain management per surgical team.
- Notify primary team/surgery team of corneal abrasion and need for the above medications while admitted and/or on discharge.
- Discuss return precautions with the patient if they are getting discharged from PACU:
  - If vision worsens, or if eye becomes more red and painful
  - Normal course is pain for 48 hours (symptom improvement within 24 hours), then pain should resolve
- **If inpatient:**
  - Ask the surgery team to order the core medications as well the following:
    - Consider ketorolac QID PRN to the affected eye for significant pain; treatment course not to exceed 3 days.
    - Inpatient ophthalmology consult if no improvement in 24 hours
    - Primary team referral to Ophthalmology in 1 week.

- **If outpatient:**
  - Ask the surgery team to order the core medications.
  - Consider topical proparacaine x 1 gtt prior to discharge for those patients with intractable pain preventing discharge home. **DO NOT** prescribe proparacaine for home use.
  - Page/secure chat on-call ophthalmology resident to set up follow-up in Ophthalmology clinic in 1 week (Call hospital operator to find out who is on call).

#### When to consult ophthalmology:

- If worsening or no improvement in symptoms with a full 24 hours of treatment.
- Immediate ophthalmology consult if there is painless vision loss in one eye where they cannot read large letters after administration of proparacaine.
- Immediately if the patient has a history of LASIK or corneal transplant
- Immediately if the patients eyelids are sutured closed

#### Prevention:

- Tape eyes shut prior to airway management.
  - Tegaderm vs paper tape vs plastic tape vs plastic goggles
- Pulse-ox on the ring finger (not index or middle finger)
- Ensure eyelids completely cover the eyes when taping eyes shut
  - Use goggles and Lacrilube (preservative free) ointment if the patient has lagophthalmos (inability to completely close eyelids).
- Q15 minute assessments throughout the case to ensure eyes are free from pressure (robot arms, surgical instruments, monitors, airway circuit, IV lines, prone/lateral cases).
- Vigilance on emergence and in PACU to make sure the patient does not rub their eyes.

#### Anesthesia documentation:

- Notify the attending anesthesiologist for the case.
- Make note of corneal abrasion in PACU signout note in comments section (document laterality, symptoms, management, **discussion with patient**).
- Go to the "Post" tab → Notable events (left hand side column) → scroll down to "Head/Neurology" section and select "corneal abrasion" OR search "corneal abrasion" and select → describe situation in 1-2 sentences in comments section (see image below)

#### **\*NOTE: When to use proparacaine\***

- If the patient cannot open their eye for an exam
- As a diagnostic tool- corneal abrasion pain should be relieved by proparacaine
- 1x dose for intractable pain preventing discharge from PACU
  - Proparacaine should **not** be prescribed for home
- If using proparacaine, tell the patient that this will provide **temporary** relief.

Post ?

Pre Intra Post Orders

Post ☐ Show deleted

Attached Proced...  
Procedure Info  
Vitals  
LDA Removal  
I/O  
Transfer of Care  
Confirm Anes Type  
Anesthesia Stop  
Sign Out Follow-up  
Notable Events  
ORDERS  
Manage Orders  
Pathways  
DOCUMENTATION COMPLETE  
Proc Description  
Review Record  
Paper Doct  
Requirements  
Sign Record  
TRAINEE FOLLOW UP  
Trainee Follow Up

- ▼ **versus an embolism**
- + Elevated troponin
- + Death
- Head/Neurology**
- + Central nervous injury or ischemia
- + Dental trauma
- + Intraoral injury
- + Epidural hematoma
- + Delayed emergence > 1 hour
- + Peripheral neurologic deficit
- + Visual loss - spine surgery
- + Visual loss - non-spine surgery
- + Corneal abrasion
- + Agitation requiring restraint or medication
- + Memory difficulties
- + Seizure
- + Postprocedure delirium
- + Acute intermittent porphyria

**Corneal abrasion** ✕

Phase  Outcome

Procedure  
Not procedure-specific **DIAGNOSTIC LAPAROSCOPY**

Comment

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