

## Corneal Abrasion: Treatment

Corneal abrasion is likely the most common ocular complication following surgery. Although it can be very painful and distressful to the patient, abrasions are fortunately easily treated. Accurate diagnosis is important as the symptoms (pain, blurry vision, red eye) can be shared with other, emergent diagnoses such as acute angle glaucoma.

Patching is no longer recommended due to no benefit and possible delayed healing due to blood vessel compression and reduced oxygen tension; the central cornea obtains its oxygen directly from the atmosphere via diffusion across the tear film. Topical steroids must also be avoided due to the risk of delayed healing and bacterial infection.

The current recommended treatment is topical antibiotics drops or ointment. In patients who wear contact lenses, in addition to not wearing the lenses until fully healed, the antibiotic should cover pseudomonas. Although a Cochrane meta-analysis didn't show a significant benefit to antibiotics, they are generally well tolerated and can, in theory, prevent a catastrophic bacterial superinfection.

One can also prescribe topical lubricating drops or topical NSAID drops, although the pain relief of the NSAID drops is not substantial. Small abrasions should heal within 24 hours and larger ones within 72. Worsening of pain, or failure to heal within this timeline should prompt an urgent ophthalmology referral.

A brief word on topical anesthetics. While they can be useful for confirming the diagnosis of a corneal abrasion (a drop in the affected eye should resolve pain in an abrasion but will not in glaucoma), use outside of a clinical setting is controversial. It was previously thought, and I was taught, that topical anesthetics are epithelio-toxic and delay healing therefore should not be used regularly and should not be prescribed to patients. However there are studies showing successful, safe treatment of corneal abrasion with topical anesthetics. Patient education is important here as an abrasion should still heal within 72 hours and topical anesthetics can mask the pain that may indicate progression to corneal ulceration or another complication. Overall I would say this is a possible, viable treatment option but requires close education and a frank discussion with the patient regarding the benefits of improved pain control and the aforementioned risks.

Further Reading: Malafa, Menyoli M. M.D.; Coleman, Jayne E. M.D.; Bowman, R. Wayne M.D.; Rohrich, Rod J. M.D.. Perioperative Corneal Abrasion: Updated Guidelines for Prevention and Management. *Plastic and Reconstructive Surgery* 137(5):p 790e-798e, May 2016. | DOI: 10.1097/PRS.0000000000002108