

# Self-Retained Amniotic Membrane for Post-PRK Keratitis

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# Background

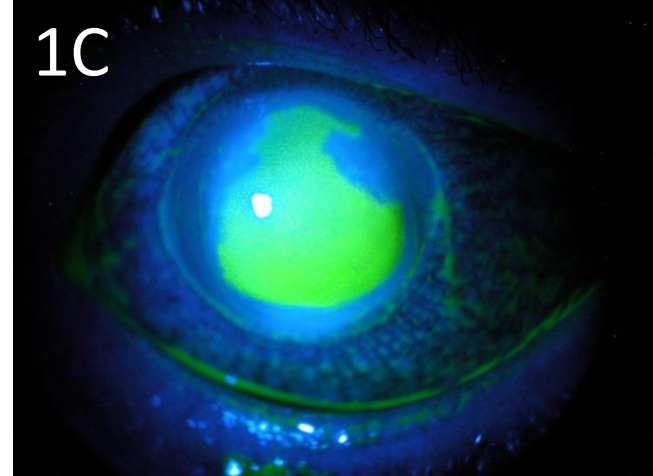
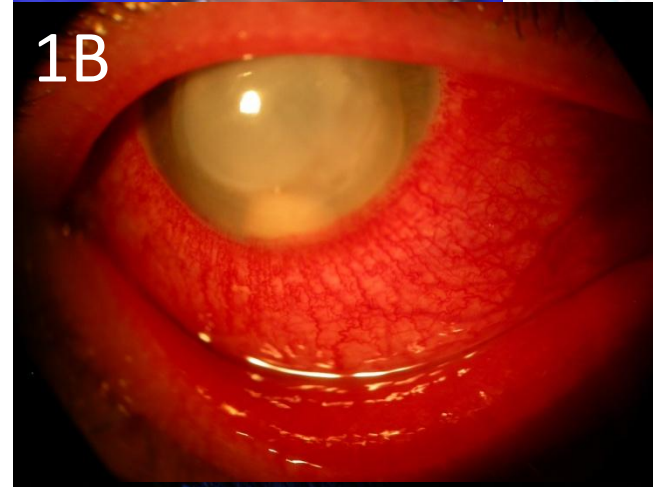
- Visual outcome after refractive surgery is significantly influenced by postoperative corneal wound healing.
- The wound healing process after PRK is more intense due to disruption of the corneal epithelial basement membrane and exposure of the anterior stroma.
- Therefore PRK carries a significant risk of postoperative corneal inflammation, delayed healing, haze, and infection.
- Post-PRK keratitis is mostly non-infectious and the empirical use of topical fortified antibiotics are toxic to the corneal epithelium.
- In post-PRK infectious keratitis, steroid use is controversial.
- Cryopreserved amniotic membrane has been successfully used to control inflammation and promote healing. It also counteracts the toxic effect of topical antibiotics and allows the use of steroids.

# Purpose

To demonstrate the efficacy of self-retained cryopreserved amniotic membrane in treating post-PRK keratitis

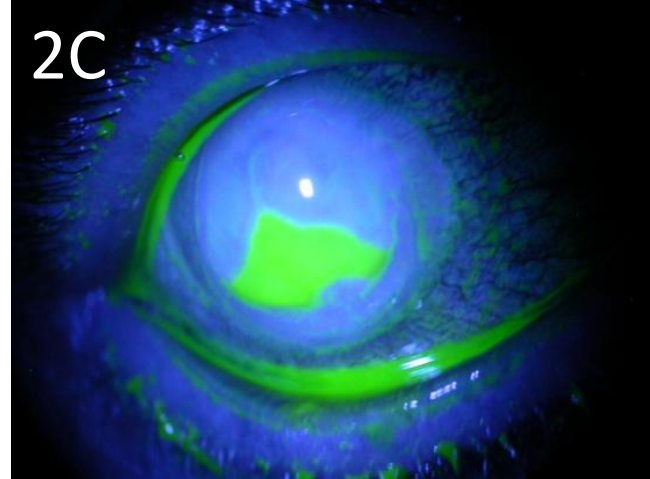
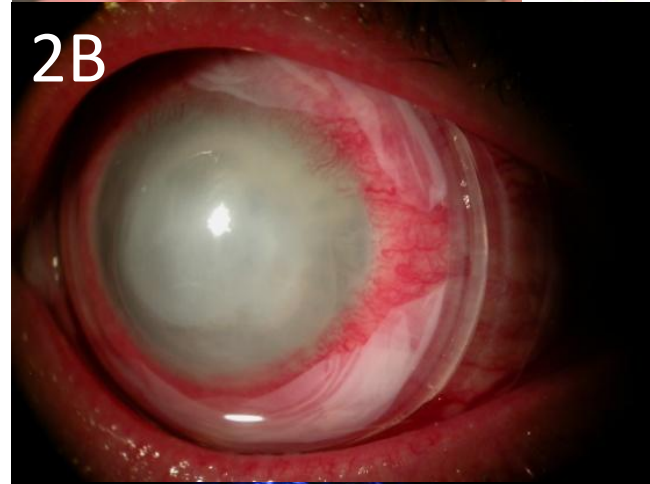
# Case Presentation

- A 40 year-old male developed severe painful loss of vision in his right eye 2 days following bilateral PRK for myopia.
- Despite negative culture, his physician suspected infectious keratitis and tried several fortified topical antibiotics.
- Two weeks later, his condition got worse and was referred to us.
- Examination revealed severe right ocular pain, photophobia (Fig 1A), conjunctival inflammation, diffuse corneal ulcer, stromal edema, hypopyon (Fig 1B, 1C) and loss of vision (LP).



# Treatment Strategy & Results

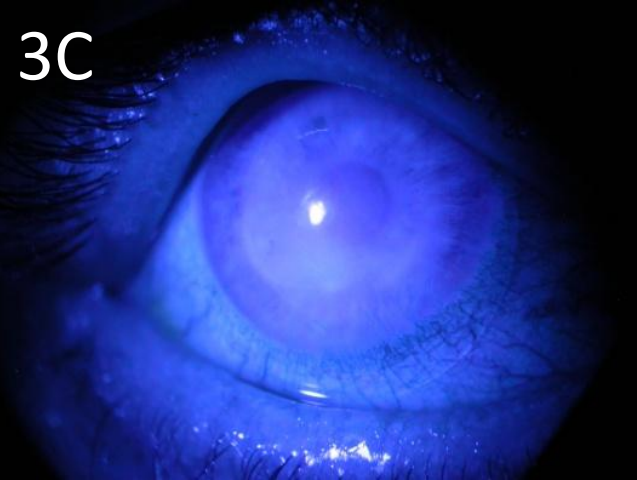
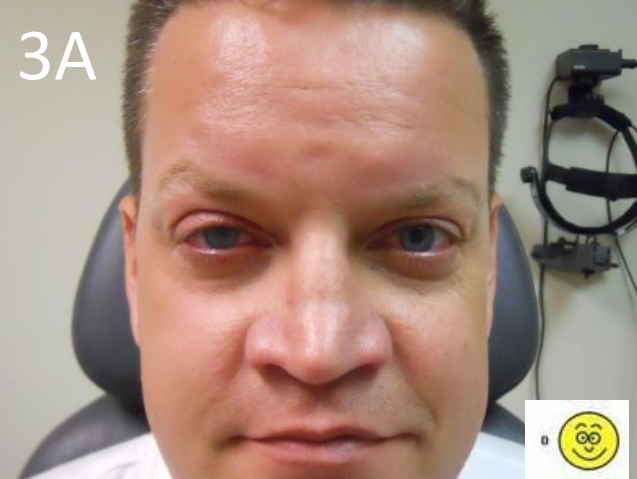
- After stopping the antibiotics for 24 hours, repeated culture came out negative. We then placed a self-retained amniotic membrane (ProKera®, Bio-Tissue, Miami, FL) and added topical preservative free steroids qid.
- Two days after treatment, ocular pain was decreased (Fig 2A), inflammation was markedly reduced and epithelialization had started.
- After one week, the amniotic membrane had dissolved (Fig 2B) and ~60% epithelial healing had been achieved (Fig 2C).





# Results (cont.)

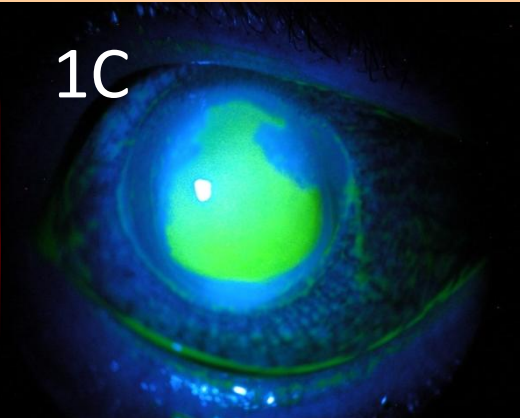
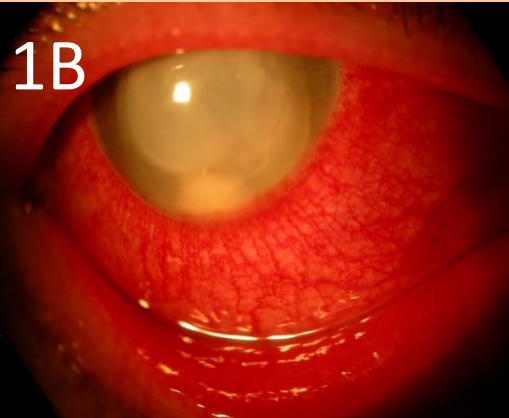
- A second ProKera was placed which resulted in complete epithelial healing after two weeks.
- The patient had no pain nor photophobia (Fig 3A) and his visual acuity improved to 20/40.
- ProKera was replaced with a bandage contact lens (Fig 3B) and the topical steroids were tapered off.
- After two months, the corneal surface remained stable (Fig 3C) and the patient was referred back to his physician.



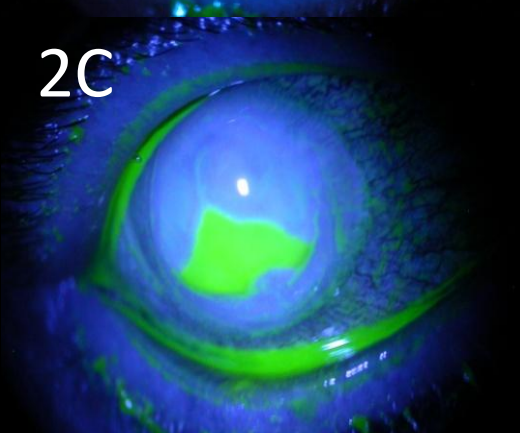
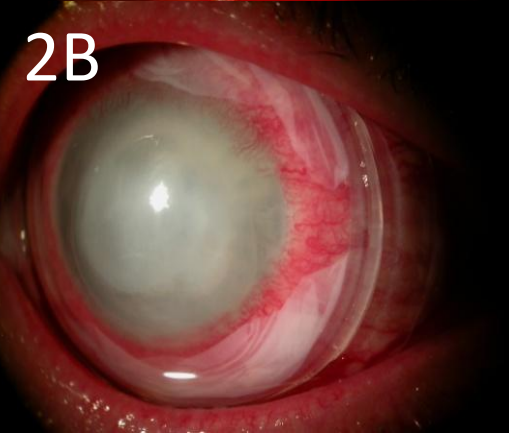
# Summary of the Results



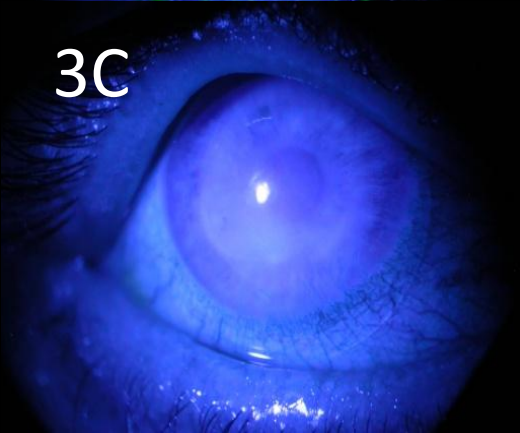
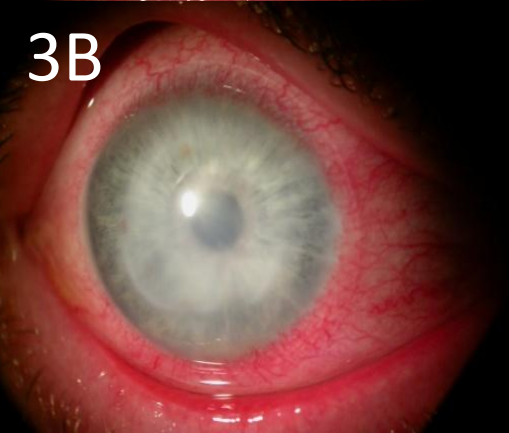
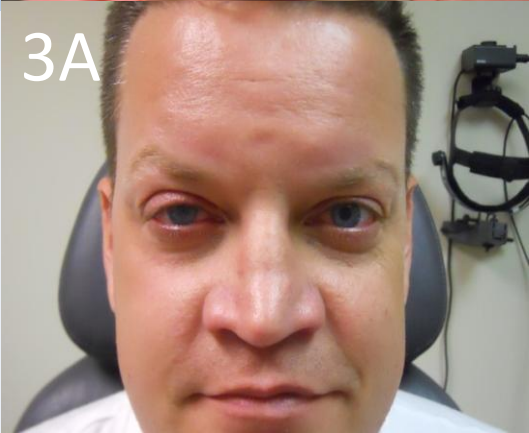
Before



1Week



3 weeks



# Conclusions

- Placement of self-retained cryopreserved amniotic membrane appears effective in treating post-PRK keratitis.
- Early intervention is recommended to control inflammation, prevent further damage, restore corneal integrity and reduce the potential of scarring.