

Eye Irrigation

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Indications

- Chemical burns to the eye.
- Removal of superficial foreign bodies.

Contraindications

- For suspected globe perforation, extreme care must be taken to not exacerbate the injury.

Materials and Medications

- Irrigating device—the Morgan lens (Fig. 54.1).
- Saline solution or lactated Ringer’s (preferably warmed).
- Topical anesthetic drops (Fig. 54.2).
- Basin to secure the extruded solution.
- Intravenous (IV) tubing to attach the IV bag to the Morgan lens.
- pH paper (Fig. 54.3).

Procedure

1. Informed consent is generally not required, although a thorough explanation to the patient is warranted.
2. Obtain pH of the eye *before* instilling anesthetic drops.
3. Anesthetize the eye(s) with topical anesthetic of choice by instilling drops within the lower lid and then asking the patient to blink several times in order to evenly distribute the solution.
4. Ensure there are no foreign bodies on the inside of the upper lids by inverting the upper lid.



Fig. 54.1 The Morgan lens and packaging

- Particulate foreign bodies may be removed with moistened cotton tip applicators.

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Fig. 54.2 Examples of topical anesthetics

5. After adequate anesthesia is ensured, place one end of the Morgan lens within the fornix of the upper lid (Fig. 54.4).
6. Next, gently retracting the lower lid will ensure smooth placement of the remaining portion of the Morgan lens (Fig. 54.5).
7. Using the end of the Morgan lens, screw in the prepared IV tubing (Fig. 54.6).
8. Attach the end of the IV tubing to the saline bag, and place at height to allow for gravity to ensure a smooth flow of solution.
 - Continue to irrigate the eye until desired pH is obtained.
9. To remove the Morgan lens, use the opposite technique for insertion.

Complications

- Corneal abrasions may be caused by the Morgan lens and are treated in the usual fashion.
- Deep corneal injury may occur with inadequate irrigation.

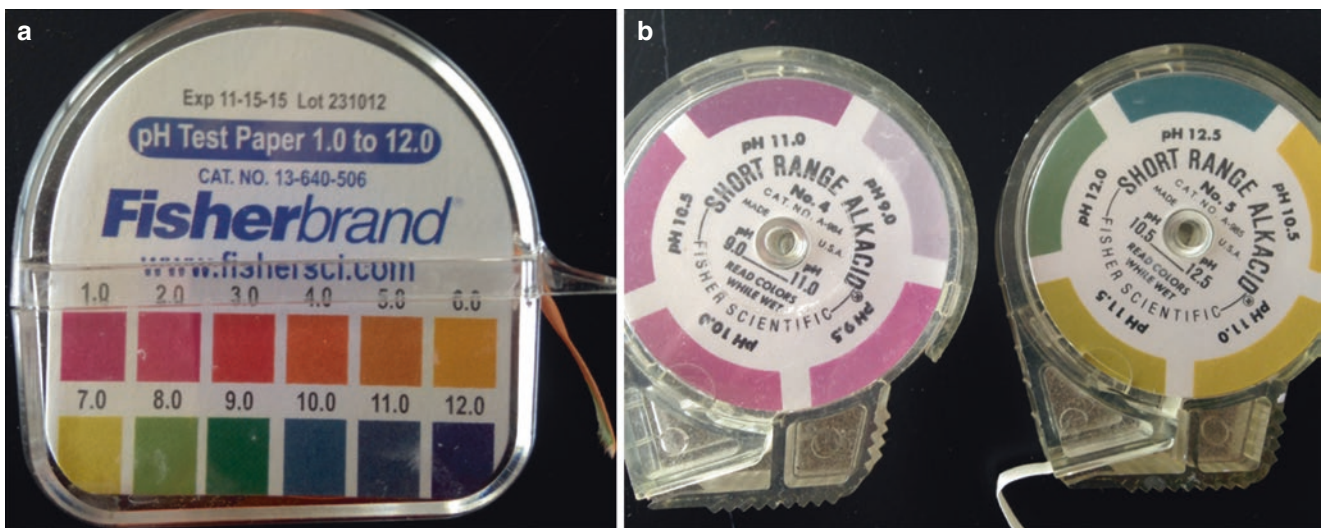


Fig. 54.3 (a, b) Examples of pH paper.



Fig. 54.4 Inserting the Morgan lens under the upper lid



Fig. 54.6 The Morgan lens in place, ready to be attached to IV tubing for saline irrigation



Fig. 54.5 Inserting the Morgan lens under lower lid

Pearls and Pitfalls

- Note that alkali burns will require significant irrigation and more topical anesthesia may be required.
- Ophthalmological consultation may be required, especially for alkaline and hydrofluoric acid burns.

Suggested Reading

Lang GK. Ophthalmology: a short textbook. Stuttgart: Thieme; 2000.
 Rhee DJ, Pyfer MF, Rhee DM, editors. The Wills Eye manual: office and emergency room diagnosis and treatment of eye disease. third ed. Philadelphia: Lippincott Williams & Wilkins; 1999.