Chemical eye injury

Decision tree from the first minute to long-term rehabilitation

1 Irrigate first, before history or examination

- Topical anaesthetic, lid speculum, **at least 1 to 2 litres** of saline or Ringer lactate (tap water if nothing else), for **at least 30 minutes**.
- Evert and double-evert the upper lid; **sweep the fornices** to remove particles (lime, cement).

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2 Check the pH after a 5-minute pause

Continue irrigating until the pH is **7.0 to 7.5**. Recheck after 30 minutes for rebound from retained particles.

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3 Assess and grade

- Vision, IOP, fluorescein staining of cornea and conjunctiva.
- **Limbal ischaemia or staining in clock hours** and **% conjunctival involvement**: Roper-Hall (I to IV) or Dua (I to VI).

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4 Medical treatment for every burn

- Preservative-free topical antibiotic, cycloplegic and lubricants.
- **Topical steroid intensively for the first 7 to 10 days**, then taper (risk of melting after this).
- Oral vitamin C 1 to 2 g daily, topical ascorbate, oral doxycycline 100 mg twice daily; control IOP.

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5 Is the burn moderate to severe? (Roper-Hall III to IV, Dua IV to VI)

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Mild (Roper-Hall I to II)

Treat as above, review daily until the epithelium heals, then weekly. Good prognosis.

Moderate to severe

Amniotic membrane within the first week, glass-rod sweeps or symblepharon ring, daily review for melting and IOP.

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6 Late rehabilitation

Limbal stem cell deficiency: **SLET or CLAU** (one eye) or allograft (both eyes), then keratoplasty; keratoprosthesis for end-stage eyes. Fix lids and symblepharon first.