

OPHTHALMOLOGY

CHEMICAL BURNS

Immediate Management



Get a 1L bag of saline and a giving set.

Give local anaesthetic eye drops (unless there is obvious globe rupture).

Lie the patient down.

Hold a dish under the head to catch water.

Attach the bag of saline to a drip stand.

Irrigate through the giving set while holding the patient's eye open and ensure you irrigate under both eyelids. If there is debris it can be carefully removed with irrigation/cotton bud.



Stop irrigation after 15 minutes of irrigation. After 5 minutes apply litmus paper under the lower eyelid for a few seconds. PH. 7.0-7.3 is normal. Compare with the other eye if unsure; though remember that both eyes may be affected.



History - perform irrigation **while** taking the history:

What was the chemical?

- **Alkali:** causes liquefaction necrosis and is most toxic. Lime, mortar, oven cleaner.
- **Acid:** causes coagulative necrosis. Toilet cleaners, battery fluid, pool cleaners.
- **PH neutral chemicals:** Solvents, detergents, aerosols, mace, pepper spray.

When did it happen?

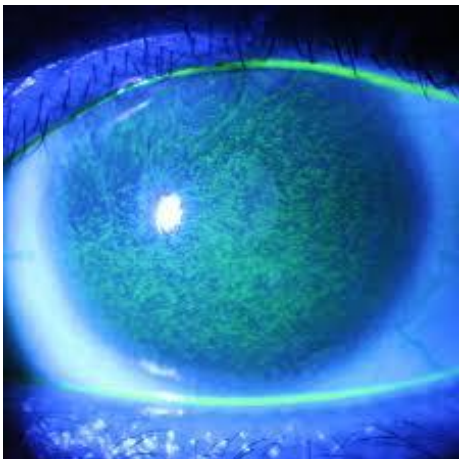
Was the patient wearing eye protection?

Was it irrigated at the scene?

Are there symptoms? Pain, visual impairment, reduced vision, tearing, adjacent skin burns.

Examination

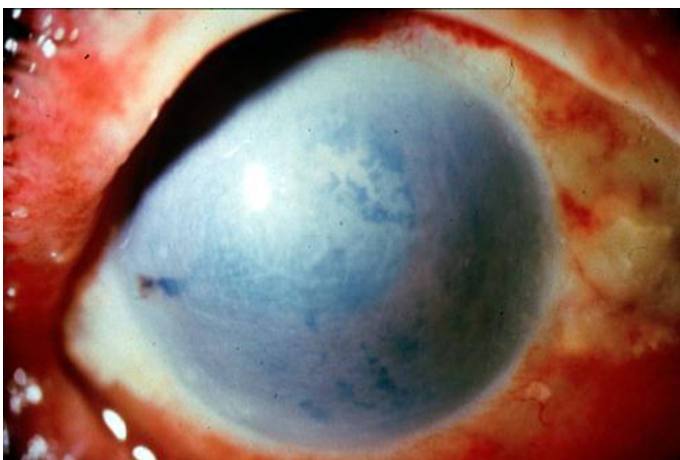
Check visual acuity and examine with a slit lamp, fluorescein, funduscopy and tonometry once a normal PH has been achieved.



Corneal Clouding

Superficial punctate keratopathy
Focal/complete epithelial sloughing
Conjunctival chemosis and hyperaemia
Limbic vascular blanching (correlates with severity)
Anterior chamber reaction

Fundoscopy: retinal necrosis if alkali penetrates
Tonometry: secondary glaucoma may occur



Ongoing Management

Check poisons information on Toxbase.

Signs of injury? Refer to ophthalmology.

If asymptomatic, PH normal and no signs of injury consider discharge, but if any doubt discuss with ophthalmology.