

# FIRECRACKERS



Firecrackers pose a serious danger when handled incorrectly or do not comply with manufacturing standards. Most firecrackers related injuries occur within the 5-14 year old male children group (Mohammad M. Al-Qattan, 2009) (Xavier Moore J, 2014) (Puri V, 2009) (Canner JK, 2014).

Education in the classroom has been proved more effective in reducing the incidence than campaigning on the news (Jones D, 2004).

Firework misuse is the leading cause of injury followed by device failure (Puri V, 2009) (Xavier Moore J, 2014).

The most common sites of injury are the hand, face and eye (Puri V, 2009). Collaboration between plastic, traumatology and ophthalmological departments is essential both in treatment as in education and preventive recommendations.

It is important to notice that a false descent in incidence might be due to decrease in reports or the decision not to use the emergency room service due to income and health insurance status (Xavier Moore J, 2014).

## PREVENTION

Firecrackers are **never to be used by** children alone, adults under the influence of any substances, If homemade, adulterated or past their expiration date or without eye protection



If the firecrackers does not go off immediately after de ignition is completed:

- 1 Everyone present should walk away to a **safe distance** (no less than 3 m).
- 2 Count to **60**.
- 3 A sober adult without flammable clothing should approach with a bucket of water and **completely soak the firecracker**.
- 4 Count to **60** again.
- 5 Dispose of the defective firecracker and contact the authorities for report.





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## TREATMENT

### Is the patient safe?

Make sure the patient is hemodynamically stable and does not require other more **urgent** assistance.

LIFE  
ORGAN  
FUNCTION  
AESTHETICS

Once in the OR try to perform a full evaluation under the correct sedation possible according to the anesthetist. Locally administered drugs and the patient's efforts cause pressure on the wounded globe leading to prolapse and more damage.

AVOID TISSUE PROLAPSE

**Don't make it worse:** avoid applying pressure to a potentially wounded eye. It might cause the prolapse of intraocular tissue through undetected wall ruptures.

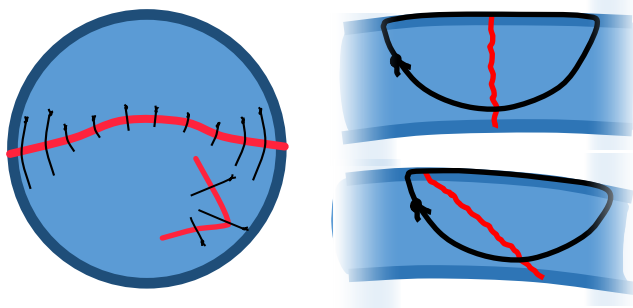
LOOK BUT DO NOT TOUCH

**Deal with the rest as soon as possible.** With a closed eye make sure the patient gets the proper treatment with an anterior segment, oculoplastics or retina specialist. REMEMBER closing the eye comes **FIRST** but is not the only measure needed.

**Do your best with what you've got.** Eye closure is paramount during the first hours of ocular trauma since the risk of infection increases alongside exposure time. Any posterior segment surgery or eyelid repair can be reattempted later provided there is no cornea exposition or manifest infection of the globe.

**CONTROL THE PATIENT.** The first 24 hours post-op are critical and subsequent visits, daily or weekly should be planned for. The best surgical procedure is worthless without the proper postop care.

SURGERY IS ONLY THE BEGINNING



In superficial wounds treat locally with broad spectrum antibiotics and anti-inflammatory drugs. Ointments have increased duration and may help with compliance. **Regain binocularity as soon as possible in children under 10.**

AVOID AMBLYOPIA

Canner JK, M. e. (2014). US emergency department visits for fireworks. *Journal of surgical research* 190 , 305-311.

Jones D, L. W. (2004). Firework injuries presenting to a national burn's unit. *Ir Med J*, 97(8):244-5.

Mohammad M. Al-Qattan, A. A.-T. (2009). Localized hand burns with or without concurrent blast injuries from fireworks. *Burns* 35, 425-429.

Puri V, M. S. (2009). Firework injuries: a ten-year study. *Journal of Plastic, Reconstructive & Aesthetic Surgery*, 62, 1103-1111.

Xavier Moore J, M. G. (2014). The epidemiology of firework-related injuries in the United States. *Injury, Int. J. Care Injured* 45 , 1704-1709.

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