OBJECTIVE: Pepper spray contains 1-15% of capsaicin. Capsaicin interacts with mucocutaneous sensory nerve receptors and causes severe facial pain with reflex blepharospasm and lacrimation.

THE AIM of this study was to evaluate an amphoteric, chelating and hypertonic decontamination solution (1) in capsaicin exposure.

RESULTS: A total of 15 capsaicin exposed patients were enrolled with a mean age of 34 years. All patients had their faces deliberately exposed to capsaicin and 4 of them were decontaminated with tap water before arrival, but without significant effects. The average time to presentation was 24 minutes after capsaicin exposure.

On arrival the patients had facial pain, blepharospasm, lacrimation and skin redness in 100%, 33%, 53% and 80% of cases, respectively. After decontamination facial pain, blepharospasm and lacrimation completely disappeared or became clinically insignificant in all patients, while skin redness remained unaffected by the decontamination (Table).

Facial pain reappeared in 2 patients (13%), but permanently disappeared after second spraying with the amphoteric, chelating and hypertonic solution. 2 patients (13%) were urgently admitted to the ophthalmologist due to conjunctivitis and blepharitis, but the rest were discharged home within half an hour after arrival at the ED.

The limitation of this study is the lack of control and measurement of clinical symptoms.

CONCLUSION: Delayed capsaicin decontamination with the amphoteric, chelating and hypertonic solution at the ED effectively reduces facial pain with reflex blepharospasm and lacrimation.