



**REGION 11
CHICAGO EMS SYSTEM
PROTOCOL**

Title: Riot Control Agents – BLS/ALS
Section: Toxins and Environmental
Approved: EMS Medical Directors Consortium
Effective: August 15, 2024

RIOT CONTROL AGENTS – BLS/ALS

I. PATIENT CARE GOALS

1. Address side effects of exposed individuals.
2. Decontamination of affected individuals.
3. Minimize effect to EMS clinician.

II. PATIENT PRESENTATION

Riot control agents may include chemical crowd control agents, harassing agents, lacrimators, oleoresin capsicum (OC, pepper spray), 2-Chloroacetophenone (CN, Mace®), incapacitating agents, o-chlorobenzylidene, malononitrile (CS), and tear gas.

A. Inclusion Criteria

Exposure to identifiable agents that are not intended to cause significant injury or fatality.

B. Exclusion Criteria

1. Exposure to chlorine, phosgene, ammonia, or other agents that are intended to cause significant injury or fatality (Refer to Chemical Airway Respiratory Irritant Protocol).
2. Exposure to an unknown agent.

III. PATIENT MANAGEMENT

A. Assessment

1. Assess scene safety; evaluate for hazards to EMS personnel, patient, bystanders.
 - a. Determine riot control agent being used.
 - b. Don appropriate PPE.
 - c. Determine number of patients.
2. Note symptoms exhibited by the exposed individual(s).
3. Provide assessment as appropriate to complaints.

B. Treatment and Interventions

1. Move affected individual(s) from contaminated environment into fresh air, if possible.



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2. Remove contaminated clothing as able.
3. Have patient remove contact lenses, if appropriate.
4. Irrigation with water or saline may facilitate resolution of symptoms and is recommended for decontamination of dermal and ocular exposure.
5. Chemical irritant spray decontamination wipes (such as Sudecon) can be used on the affected skin and eyes, as available.
6. Irrigation with baby shampoo may be used but studies have shown this provides no better relief of symptoms than irrigation with water alone.
7. If patient is hypoxic, apply oxygen as indicated.
8. If patient is wheezing, see [Bronchospasm Protocol](#).
9. For persistent pain of the eye or skin, see [Topical Chemical Burn Protocol](#).
10. Exposed individuals who are persistently symptomatic warrant further evaluation and treatment.

C. Patient Safety Considerations

1. Toxicity is related to duration of exposure and concentration of agent used (exposure in non-ventilated space).
2. Patients with pre-existing pulmonary conditions (e.g., asthma, COPD) may be prone to more severe respiratory effects.
3. Traumatic injury may result when exposed individuals are in proximity to the device used to disperse the riot control agent (e.g., hose/stream under pressure, riot control agent projectile, grenade).

IV. NOTES/EDUCATIONAL PEARLS

A. Key Considerations

1. CN (Mace), CS, and OC are the most encountered riot control agents.
2. CN (Mace), CS, and OC have a high safety ratio. All three have a high median lethal concentration (LCt50) and a low median effective concentration (ECt50).
3. Toxicity is related to time of exposure and concentration of agent used (exposure in non-ventilated space).



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4. Symptoms that may be experienced after exposure:
 - a. Eyes: Tearing, pain, conjunctivitis, blurred vision
 - b. Nose/mouth/throat: Rhinorrhea, burning/pain, trouble swallowing, drooling
 - c. Lungs: Chest tightness, coughing, choking sensation, wheezing, dyspnea
 - d. Skin: Burning, redness, dermatitis
 - e. GI: Nausea and vomiting are rare and may be post-tussive

5. Symptoms begin within seconds of exposure, are self-limited, and are best treated by removing patient from ongoing exposure. Symptoms frequently decrease over time (15– 45 minutes) after exposure ends.

B. Pertinent Assessment Findings

1. Riot control agent used
2. Symptoms of exposed
3. Lung sounds
4. Evidence of other traumatic injuries