



TOXIC SYNDROME DESCRIPTION

Riot Control Agent Poisoning

Chloroacetophenone (CN), chlorobenzylidenemalononitrile (CS), chloropicrin (PS), bromobenzylcyanide (CA), dibenzoxazepine (CR), and combinations of these chemicals are irritant agents that belong to a class of agents collectively known as riot control agents or “tear gas.” Although CN and CS are the most commonly used agents, many other tear gas agents have been used worldwide. Most exposures are inhalational, ocular, or dermal and typically lead to complaints of eye, nose, and throat irritation; hacking cough; suffocation or choking sensation; and dyspnea. Although unlikely, high-dose exposures in an enclosed space may lead to the development of airway edema, noncardiogenic pulmonary edema, and possibly respiratory arrest.

The amount and route of the exposure to tear gas and the premorbid condition of the person exposed will contribute to the time of onset and the severity of illness. For example, given a similar route of exposure, clinical effects may vary from mild to severe, depending on the concentration of tear gas to which a person has been exposed.

The following is a more comprehensive list of signs and symptoms that may be encountered in a person exposed to tear gas. Symptoms are not listed in order of presentation or specificity. Also, partial presentations (an absence of some of the following signs/symptoms) do not necessarily imply less severe disease.

1. Respiratory signs and symptoms

- Cough
- Hoarseness
- Chest tightness
- Sensation of suffocation
- Dyspnea
- Tachypnea
- Wheezing or rales
- Hypoxemia
- Cyanosis
- Noncardiogenic pulmonary edema

2. Skin and mucous membranes

- Redness, pain, and blistering of exposed skin
- Burn injury to exposed skin
- Eye: lacrimation, ocular irritation and redness, blurred vision, corneal burns
- Oropharynx: oral burns and irritation, sore throat, hoarseness, dysphagia, salivation
- Nose: rhinorrhea, burning, irritation, edema

Note: The actual clinical manifestations of tear gas exposure may be more variable than the syndrome described above.

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Differential diagnosis

- Ammonia
- Phosgene
- Chlorine
- Sulfuric acid
- Hydrogen chloride
- Sodium azide
- Hydrogen sulfide
- Nickel carbonyl

For more information, visit www.bt.cdc.gov/chemical, or call CDC at 800-CDC-INFO (English and Spanish) or 888-232-6348 (TTY).

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