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## Information and recommendations for patients

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- **Patients exposed only to chlorine gas do not pose a significant risk of secondary contamination. Patients whose clothing or skin is contaminated with liquid chlorine (boiling point  $-34^{\circ}\text{C}$ ,  $-29^{\circ}\text{F}$ , respectively) can secondarily contaminate rescue and medical personnel by direct contact or through off-gassing chlorine.**
  - **Chlorine gas is rapidly corrosive when it comes in contact with moist tissue such as the eyes, skin, and upper respiratory tract causing eye irritation, coughing, chest pain and dyspnea. Swelling of the throat and signs of accumulation of fluid in the lungs (shortness of breath, cyanosis, expectoration, cough) may occur.**
  - **There is no antidote to be administered to counteract the effects of chlorine. Treatment consists of supportive measures.**
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### Substance information

Chlorine (Cl<sub>2</sub>), CAS 7782-50-5

Chlorine is, at room temperature, a yellow-green, noncombustible gas with a sharp or pungent odor. Under pressure or at temperatures below  $-34^{\circ}\text{C}$  ( $-29^{\circ}\text{F}$ ), it is a clear, amber-colored liquid. It is a strong oxidizing agent and can react explosively or form explosive compounds with many common substances. Chlorine is only slightly soluble in water, but on contact with moisture it forms hypochlorous acid (HClO) and hydrochloric acid (HCl); the unstable HClO readily decomposes, forming oxygen free radicals. Water enhances chlorine's oxidizing and corrosive effects.

Chlorine is widely used as a chemical reagent in the synthesis and manufacture of metallic chlorides, chlorinated solvents, crop protection products, polymers and synthetic rubbers. It is used as a bleach in the manufacture of paper and cloth; it can be released from hypochlorite-containing household products when they come in contact with acids.

### What immediate health effects can result from exposure to chlorine?

Most exposures to chlorine occur from breathing the gas. Exposure to small amounts usually causes eye, nose, and throat irritation with tearing and lacrimation of the eyes, sore throat and coughing. Extended exposure can cause severe breathing difficulty, which may lead to chemical pneumonia and death.

### Are any future health effects likely to occur?

A single small exposure from which a person recovers quickly is not likely to cause delayed or long-term effects. Some persons who have had serious exposures have developed permanent breathing difficulty and tend to develop lung infections easily.

## Follow-up instructions

Keep this page and take it with you to your next appointment. Follow only the instructions checked below.

- ( ) Call your doctor or the Emergency Department if you develop any unusual signs or symptoms within the next 24 hours, especially:
- coughing or wheezing
  - difficulty breathing or shortness of breath
  - increased pain or a discharge from exposed skin or eyes
  - chest pain or tightness
- ( ) No follow-up appointment is necessary unless you develop any of the symptoms listed above.
- ( ) Call for an appointment with Dr. \_\_\_\_\_ in the practice of \_\_\_\_\_  
When you call for your appointment, please say that you were treated in the Emergency Department at \_\_\_\_\_ Hospital by \_\_\_\_\_ and were advised to be seen again in \_\_\_\_\_ days.
- ( ) Return to the Emergency Department/\_\_\_\_\_ Clinic on (date) \_\_\_\_\_ at \_\_\_\_\_ am/pm for a follow-up examination.
- ( ) Do not perform vigorous physical activities for 1 to 2 days.
- ( ) You may resume everyday activities including driving and operating machinery.
- ( ) Do not return to work for \_\_\_\_\_ days.
- ( ) You may return to work on a limited basis. See instructions below.
- ( ) Avoid exposure to cigarette smoke for 72 hours; smoke may worsen the condition of your lungs.
- ( ) Avoid drinking alcoholic beverages; alcohol may worsen your clinical condition.
- ( ) Avoid taking the following medications: \_\_\_\_\_  
\_\_\_\_\_
- ( ) You may continue taking the following medication(s) that your doctor(s) prescribed for you: \_\_\_\_\_  
\_\_\_\_\_
- ( ) Other instructions: \_\_\_\_\_  
\_\_\_\_\_

Signature of patient \_\_\_\_\_ Date \_\_\_\_\_  
Signature of physician \_\_\_\_\_ Date \_\_\_\_\_

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