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## Information and recommendations for patients

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- Patients whose clothing or skin is contaminated with phenol can secondarily contaminate rescue and medical personnel, by direct contact or through evaporation of phenol.
  - Phenol is a highly corrosive chemical which is very well and rapidly absorbed by all exposure routes. Thus, phenol can cause severe burns at the contact site as well as systemic poisoning resulting in central nervous system disturbances, cardiovascular and renal failure.
  - Extensive local damage may be caused before pain is felt.
  - Rapid decontamination by immediate extensive irrigation with polyethylene glycol and water is the most critical measure after dermal exposure.
  - There is no systemic antidote to be administered to counteract the effects of phenol. Treatment consists of supportive measures.
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### Substance information

Phenol (C<sub>6</sub>H<sub>5</sub>OH), CAS 108-95-2

Synonyms include carbolic acid, hydroxybenzene, phen(yl)ic acid, phenyl(ic) alcohol

At room temperature, phenol has a low vapor pressure and is a clear or light-pink crystalline mass, white powder, or thick liquid. Phenol is well soluble in alcohol and slightly soluble in water. It has a sweet, sharp odor.

Phenol is obtained by organic synthesis or fractional distillation of coal tar. It is used in the manufacture of a variety of products including artificial resins, plastics, photographic developers, rubber, and dyes. Phenol is a general disinfectant and also, in dilute solutions, used as a preservative, an antipruritic or a local anesthetic in some medical preparations.

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

Phenol causes chemical burns when it contacts skin or eyes, or when it is inhaled or swallowed. It can rapidly be absorbed through skin, lungs, and stomach. A serious exposure may be acutely life-threatening. The brain is very sensitive to phenol. Thus, seizures, coma and breathing disturbances may result. In addition, phenol injury to the lungs can cause them to fill with fluid. Heart rhythm and kidney function might be disturbed after severe exposure.

### 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. After a serious exposure, symptoms might still appear more than 12 hours later. People who have had serious exposures may develop permanent damage to the nervous system or to the kidneys. Chemical burns to skin, eyes, and esophagus may result in irreversible damage.

## 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 5 days, especially:
  - difficulty breathing or shortness of breath
  - chest pain or tightness
  - irregular heart rhythm
  - increased pain, swelling, redness, or a pus-like discharge where skin is burned
  - blood in the urine
  
- ( ) 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 \_\_\_\_\_

## References

Berufsgenossenschaft der chemischen Industrie, Hrsg. Phenol, Kresole und Xylenole. Heidelberg: Jedermann-Verlag, 1988. (Merkblätter für gefährliche Arbeitsstoffe; M 018.)

Ellenhorn MJ, Schonwald S, Ordog G, Wasserberger J. Ellenhorn's Medical Toxicology: Diagnosis and Treatment of Human Poisoning. 2nd ed. Baltimore: Williams & Wilkins, 1997: 100, 1228-1229, 1265-1266.

Goldfrank LR, Flomenbaum NE, Lewin NA, Weisman RS, Howland MA, Hoffman RS. Toxicologic Emergencies. 6th ed. Norwalk: Appleton & Lange, 1998: 919-920, 1363-1365, 1409.

Horch R, Spilker G, Stark GB. Phenol Burns and Intoxications. Burns 1994; 20: 45-50.

Micromedex, Inc.: Tomes CPS™ Medical Management: Phenol, 1996.

U.S. Department of Health & Human Services - Agency for Toxic Substances and Disease Registry, ed. Phenol. Atlanta, 1994. (Managing Hazardous Materials Incidents; Vol III.)

Olasveengen TM, Semeraro F, et. Al: European Resuscitation Council Guidelines 2021: Basic Life Support. Resuscitation 2021, 161: 98-114