Print-And-Go Sheet: Corrosive Chemicals Post-Exposure Guidance

This information sheet identifies immediate first aid actions that should be taken following an exposure to a corrosive chemical, such as a strong acid or base.

Seek medical assistance immediately after an exposure to a strong acid, and take this document to the medical staff providing treatment. Be sure also to display your Weill Cornell Medicine employee ID card when visiting the medical provider.

Note: This guidance document provides information that medical personnel can reference but does not give individualized medical care or treatment protocols.

How to Seek Medical Assistance

- **For exposures Monday to Friday, 8:00 am – 4:00 pm:**
  - **WCM Upper East Side Employees:** Go to the Payson House basement Workforce Health and Safety (WHS) clinic at **1315 York Avenue** or call **212-746-4370.**
  - **Lower Manhattan Employees:** Go to the NewYork Presbyterian (NYP) Lower Manhattan G level WHS at **170 William Street, Rooms G73A and G73B** or call **212-312-5249.**
  - **Students:** Go to Student Health Services (SHS) at **230 E. 69th Street, Suite 2BB** (between 2nd and 3rd Avenue) or call **646-962-6942.**
- **For exposures after business hours:**
  - **WCM Upper East Side Employees and Students:** Go to the NYP Emergency Room at **525 East 68th Street** or call **212-472-2222**.
  - **Lower Manhattan Employees:** Go to the NYP Lower Manhattan Hospital Emergency Room at **170 William Street** or call **212-312-5070.**

Give this sheet to the physician so they understand that you may have been exposed to a corrosive chemical, and that this is a medical emergency.

You can contact the NYP ER at 212-472-2222 or by dialing 2-2222 from any campus phone.

Hazard Summary

Corrosives are chemicals that cause the destruction of exposed tissues and mucous membranes. They can take the form of solids, pure liquids, solutions, or gases. Strong corrosives typically have a pH below 2.5 (acids) or above 11 (bases), and can include organic or inorganic substances.

Exposure to corrosive chemicals can cause severe chemical burns, disfiguring scars, and blindness. Short-term exposure can cause eye, nose, and respiratory tract irritation, inflammation, or pulmonary edema. On exposure to air, some chemicals form dense corrosive vapors that pose an inhalation hazard. For information about exposure controls, please refer to the WCM Laboratory Chemical Hygiene Plan (https://ehs.weill.cornell.edu/sites/default/files/4.1labchp.pdf).

Note: This ***does not*** include corrosives with additional hazardous properties (e.g., Hydrofluoric acid, corrosive flammables, oxidizing agents, etc.).

Signs and Symptoms of Exposure

- **Skin Exposure – Skin contact with highly concentrated corrosives can cause deep burns fo the skin and mucous membranes.** Contact with less concentrated chemicals can cause redness of the skin and mild inflammation.
- **Eye Contact – Exposure to highly concentrated corrosive chemicals can cause corneal cell death, cataracts, and glaucoma.** Exposure to more dilute solutions can cause stinging pain and eye injuries.
- **Inhalation –** Inhalation of high concentrations of vapors from corrosive chemicals may result in irritation to the nose and respiratory tract. Very high concentrations can lead to swelling of the throat, spasm, and suffocation. Exposure can lead to chemically-induced asthma.
- **Ingestion –** Ingestion can cause pain, difficulty swallowing, nausea, and vomiting. Severe corrosive injury to the mouth, throat, esophagus, and stomach can occur.

Weill Cornell Medicine
Environmental Health and Safety
TEL 646-962-7233 WEB weill.cornell.edu/ehs EMAIL ehs@med.cornell.edu
Weill Cornell Medicine | 402 East 67th Street, Room LA-0020 | New York, NY 10065

Post-Exposure Medical Evaluation & Treatment

1. DETERMINE THE NATURE OF THE EXPOSURE

- Verify the specific corrosive involved, its concentration, and the route of exposure.
- Determine the form that the chemical was in when the exposure occurred, whether it was in dehydrated solid form, solution, or gaseous vapor form. This will likely affect symptoms.

2. VERIFY THAT FIRST AID WAS PERFORMED

- Remove all contaminated clothing immediately.
- Ensure skin was thoroughly washed with copious amounts of soap and water for at least 5 minutes, and that mucus membranes or eyes were washed with copious amounts of saline or plain water for at least 15 minutes.
- **Do not squeeze the area of injury or use chemicals like bleach, as they are not known to be beneficial, may break down the skin's barrier function, and may react with residual chemical.**

3. IMMEDIATE MEDICAL CARE

- Evaluate and support airway, breathing, and circulation (ABC's).
- **Administer supplemental oxygen by mask to patients who have respiratory symptoms**. Treat patients who have bronchospasm with aerosolized bronchodilators.
- **Treat skin burns from contact with concentrated corrosive chemicals the same as you would thermal burns.**
- Irrigate exposed eyes for at least 15 minutes or until the pH of the conjunctival fluid has returned to normal. Examine eyes for corneal damage and treat appropriately. Consult an ophthalmologist immediately for patients with corneal injuries.
- **Do not induce vomiting. Do not administer activated charcoal or attempt to neturalize stomach contents**. Immediately dilute with four to eight ounces of water or milk.
- Consider gastric lavage if a large dose has been ingested, the patient's condition is evaluated within 30 minutes, the patient has oral lesions or persistent esophageal discomfort, and the lavage can be administered within one hour of ingestion. Be careful to not further injure the esophagus or stomach.

4. TESTING AND FOLLOW-UP

- Monitor for complete blood count, glucose, and electrolytes following a significant exposure.
- Monitor with chest radiography and pulse oximetry following an inhalation or respiratory tract irritation.
- **Patients who develop serious symptoms should be hospitalized and observed closely for four to six hours, or until asymptomatic.**
- Patients who have inhaled significant amounts of vapors should be monitored with pulmonary function tests and for the development of Reactive Airway Dysfunction Syndrome (RADS).
- Consider follow-up esophagoscopy and an upper gastrointestinal tract series to evaluate secondary scarring or stricture formation about two to four weeks following ingestion.
- **Patients with skin or corneal injury should be re-examined within 24 hours.**

Next Steps for Exposed Individual

- **If evaluated at the ER, follow up with your respective campus provider** (WHS or Student Health) the following business day and complete an accident report there. Continue follow-up as directed by WHS.
- **Notify your supervisor of the incident.**
- EHS will likely contact you for follow-up investigation in order to prevent similar incidents from occurring in the future. Feel free to share any information with them in order to help keep the campus safe.

Contact Information

- EHS: 646-962-7233, ehs@med.cornell.edu
- Security: 212-746-0911
- Workforce Health and Safety: 212-746-4370 (NYP Weill Cornell), 212-312-5249 (NYP Lower Manhattan)
- Student Health Services: 646-962-6942

References

- "Medical Management for Hydrogen Chloride." ATSDR, CDC. https://wwwn.cdc.gov/TSP/MMG/MMGDetails.aspx?mmgid=758&toxid=147.
- "Hydrochloric acid." Pubchem. https://pubchem.ncbi.nlm.nih.gov/compound/Hydrochloric-acid.
- "Corrosives SOP", UCLA. https://ucla.app.box.com/s/caejiihxuh5n3m6z7zhzbj1asmuvx7mx.