

Print-And-Go Sheet: Picric Acid Post-Exposure Guidance



This information sheet identifies immediate first aid actions that should be taken following an exposure to Picric Acid.

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 picric acid, 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

Picric acid is a pale yellow, odorless, crystalline solid used as a laboratory reagent, most commonly at WCM in the form of the fixative Bouin's solution (which also contains Formaldehyde and Acetic acid). Picric acid is highly explosive. It can be readily absorbed through the skin and mucous membranes of the body. It also acts as a skin sensitizer, resulting in acute contact dermatitis.

Picric acid must remain wet when being handled, as dry Picric acid is extremely explosive. 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>).

Signs and Symptoms of Exposure

- **Skin Exposure** – Direct skin contact with picric acid can cause staining of the skin. Repeated exposures can lead to an allergic response, causing dermatitis following skin contact in individuals who have had repeated exposures.
- **Eye Contact** – Exposure to picric acid can cause eye irritation, redness, pain, and yellow vision. A direct splash in the eye can cause corneal injury.
- **Inhalation** – Inhalation of Picric acid dust can cause sore throat and cough. Lung damage may occur if large concentrations are inhaled.
- **Ingestion** – Ingestion can cause a bitter taste, headache, dizziness, nausea, vomiting, and diarrhea. A general yellowish skin discoloration can also occur.



**Weill Cornell
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Environmental Health and Safety

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Post-Exposure Medical Evaluation & Treatment

1. DETERMINE THE NATURE OF THE EXPOSURE

- Verify the chemical's 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 mucous 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

- Establish the patient airway. Suction if necessary, and administer oxygen by nonrebreather mask if the patient is having difficulty breathing. Watch for pulmonary edema, and consider drug therapy for pulmonary edema if necessary.
- Administer 1% methylene blue solution if the patient has severe hypoxia, cyanosis, and is not responding to oxygen.
- Wash skin with copious amounts of water or Diphoterine solution. Cover any skin burns with dry sterile dressings after decontamination.
- Irrigate exposed eyes for at least 15 minutes with water or Proparacaine hydrochloride. Examine eyes for corneal damage and treat appropriately. Consult an ophthalmologist immediately for patients with corneal injuries.
- **Do not induce vomiting.** Administer activated charcoal. Immediately dilute with eight to ten ounces of water. If milk is available, administer it after water has been given.

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).
- 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

- "Picric Acid Safety Guidelines." Concordia University Environmental Health and Safety. https://www.concordia.ca/content/dam/concordia/services/safety/docs/EHS-DOC-009_PicricAcidGuidelines.pdf.
- "Picric acid." Pubchem. <https://pubchem.ncbi.nlm.nih.gov/compound/Picric-acid>.
- "Picric acid: Understanding specific chemicals hazard", Prevor. <https://www.prevor.com/en/picric-acid-understanding-specific-chemicals-hazard/>.