

## Suspected Cyanide Toxicity

Cyanide toxicity most commonly results from exposure to closed-space fire smoke, though it can occasionally result from ingestion or dermal exposure, especially in industrial settings. Cyanide acts quickly; rapid treatment is essential when clinical suspicion of toxicity is high.

Patients who do not meet **all** the eligibility criteria, or who have a history of anaphylactic reactions to hydroxocobalamin or cyanocobalamin (vitamin B12), should **not** receive hydroxocobalamin without Online Medical Consultation. **OMCP**

**CAUTION:** Hydroxocobalamin is incompatible with **benzodiazepines, dopamine, and fentanyl**. If possible, it should be administered through exclusive venous access. After infusion, flush line with a minimum of 20 ml NS prior to any other medication.

**CAUTION:** Secondary exposure can occur. Be sure proper decontamination and personal protective equipment procedures are followed. **Do not become a patient.**

1. **F** Administer 100% oxygen. Proceed with airway management as indicated.
2. **A** Place the patient on a cardiac monitor.
3. **B** Place the patient on a pulse oximeter.
4. **A** Initiate an intravenous reseat, or an infusion if appropriate.
5. **A** Measure the patient's blood sugar (BS) with a glucometer. Treat hypoglycemia (see Acute Non-Traumatic Altered Level of Consciousness).
6. **I** Use ET $\text{CO}_2$  monitoring if appropriate.

Administer hydroxocobalamin (Cyanokit<sup>®</sup>) if the patient meets **all** the following criteria:  
**Exposure to fire smoke in an enclosed area**  
**Soot present around the mouth, nose, and/or oropharynx**  
**Markedly altered mental status (GCS  $\leq$  9), including seizure and cardiac arrest**

If the patient does not meet **all** the above criteria, yet cyanide toxicity is suspected, especially if there is hemodynamic instability or a GCS 10-13, hydroxocobalamin use may only be considered with Online Medical Consultation. **OMCP**

7. **P** Obtain blood specimens for later testing (tubes located in Cyanokit<sup>®</sup>)
8. **P** Administer hydroxocobalamin 5 g (**PEDIATRIC: 70 mg/kg**) IV per Cyanokit<sup>®</sup> instructions, over 15 min.

A second dose, if available and indicated due to the severity of the poisoning and the clinical response, may only be considered with Online Medical Consultation. **OMCP**

If the number of patients in need of treatment exceeds available supplies, a reduced dose (2.5 gm (**PEDIATRIC: 35 mg/kg**)) may be considered with Online Medical Consultation. **OMCP**

9. **F** If carbon monoxide toxicity is suspected, transport the patient to MHSB (see Scenario-Specific Diversion)

### Key Considerations

- Hydroxocobalamin may be administered intraosseously.
- Hydroxocobalamin may cause **transient hypertension**, nausea, vomiting, diarrhea, abdominal pain, eye irritation, red colored urine, and red colored skin.
- Watch carefully for signs of anaphylaxis and treat accordingly.