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| Bayfield-Ashland Counties EMS TOXINS / ENVIRONMENTAL Chemical Exposure | EC-4 CYANIDE EXPOSURE |
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SYMPTOMS: Anxiety, vertigo, weakness, headache, tachypnea, nausea, dyspnea, vomiting and tachycardia.

High concentrations of cyanide will produce:

- Markedly altered level of consciousness, including rapid collapse.
- Seizures
- Respiratory depression or respiratory arrest
- Cardiac dysrhythmias (other than sinus tachycardia)

Note: Cyanide may enter the body through inhalation, ingestion or absorption. If ingested, it will react with the acids in the stomach generating hydrogen cyanide gas when the patient belches or vomits. Maximize air circulation in any closed spaces (ambulance).

CYANIDE should be suspected in smoke inhalation or exposures (firefighting). It is a combustion product of synthetic materials such as plastics.

ASSESSMENT and TREATMENT

ALL LEVELS

1. Don appropriate PPE. Respiratory protection may be critical.
2. Assure patient has moved or is removed from toxic environment.
3. If the patient has not decontaminated, instruct patient to remove clothing that may have cyanide on it and wash body with soap and water. If patient is unable to follow directions, carefully remove patient clothing, double bag, and wash skin with soap and water.
4. Assess ABCDs re-cover the patient to assure retention of body heat.

EMR-O; EMT-R

5. Obtain and monitor vital signs (pulse, respirations, blood pressure) including temperature and SpO₂.
6. Monitor patient for signs of hypoxia (SpO₂ less than 93%) and respiratory decompensation regardless of SpO₂ reading. [SpO₂ should *NOT* be relied upon in possible cyanide toxicity.]
7. Administer oxygen as appropriate.
8. Check blood glucose level.
9. Obtain patient history including cardiovascular history and prescribed medications.
10. Identify the specific agent of exposure, time of ingestion or inhalation and quantity or timing of exposure.

EMT-O

11. Attach a ECG cardiac monitor and obtain a 12-lead ECG.
12. Obtain ETCO₂ reading.

INT-O

13. Interpret ECG and ETCO₂ readings

PATIENT MANIFESTING SIGNIFICANT EXPOSURE SIGNS or SYMPTOMS:

EMR-O; EMT-R

14. Treat with 100% oxygen via non-rebreather mask or bag valve mask.
15. Treat seizures per [Seizure guideline \[M-12\]](#).

AEMT

16. Collect blood sample in the appropriate tube for lactate and cyanide levels if possible.

PARA-O

17. Administer one of the following medication regimes:

- Hydroxocobalamin (the preferred agent) Adult: [5 grams IV/IO administered over 15 minutes] Pediatric: [70 mg/kg (max 5g) IV/IO administered over 15 minutes]
- OR

- Sodium thiosulfate – Adult: [12.5 g IV] Pediatric: [0.5 g/kg IV max of 12.5 g]

18. Hydroxocobalamin is the only agent safe for treatment of a pregnant patient.