

Initial Date: 07/19/2023

Revised Date:

Section: 9-26R

Hydroxocobalamin

Pharmacological Category: Antidote; Vitamin, Water Soluble

Routes: IV/IO

Indications:

1. Known or suspected cyanide poisoning.
2. Smoke inhalation with altered mental status and/or moderate to severe respiratory distress.

Precautions:

1. Numerous drugs and blood products are not compatible with hydroxocobalamin.
2. Push over 15 minutes
3. Hydroxocobalamin is incompatible with dopamine and fentanyl. Must flush line between medications.

Expected effects:

1. Increased blood glucose

Side effects:

1. Nausea
2. Vomiting
3. Abdominal pain
4. Red colored urine, skin, mucus membranes
5. Rash

Notes:

1. Hydroxocobalamin comes as a powder to be reconstituted prior to administration and is available as Cyanokit®
2. Reconstitute Cyanokit® (5 gm or 2.5 gm vial) for injection using sterile transfer spike with diluent (0.9%NaCl).
 - a. The line on each vial label represents the volume of diluent
 - b. Repeatedly inverted or rock vial (do not shake) prior to infusion
 - i. 5 gm bottle invert/rock for at least 60 seconds
 - ii. 2.5 gm bottle invert/rock for at least 30 seconds
 - c. Visually inspect solution - should be dark red with no particulates
 - i. Discard if visible particulates and/or not dark red

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Dosing: CYANIDE EXPOSURE

Indication: Patients exposed to cyanide that demonstrate symptoms as outlined in the above protocol.

Adults administer:

1. Hydroxocobalamin 5 gm IV/IO slow IV push over 15 minutes. May repeat 5 gm dose infusion. Infuse over 15 minutes for sever cases, slower infusion, up to 2 hours, for less severe cases. Total max dose 10 gm.

Pediatrics administer:

1. Hydroxocobalamin according to MI MEDIC cards
2. If MI MEDIC cards are not available administer:
 - a. Hydroxocobalamin according to chart below
 - b. If chart below is not available administer Hydroxocobalamin 70 mg/kg IV/IO slow IV push over 15 minutes.

**Cyanokit® Administration for Suspected Cyanide Poisoning
(including serious smoke inhalation)**

Weight	Age	Cyanokit® Dose ¹ (~70 mg/kg +/-) IV/IO	Cyanokit® Volume to Administer ² IV/IO
3-5 kg (6-11 lbs)	0-2 months	250 mg	10 mL ³
6-7 kg (13-16 lbs)	3-6 months	500 mg	20 mL ³
8-9 kg (17-20 lbs)	7-10 months	625 mg	25 mL ³
10-11 (21-25 lbs)	11-18 months	750 mg	30 mL ³
12-14 kg (26-31 lbs)	19-35 months	900 mg	36 mL ³
15-18 kg (32-40 lbs)	3-4 years	1100 mg	44 mL ³
19-23 kg (41-51)	5-6 years	1500 mg	60 mL ³
24-29 kg (52-64)	7-9 years	1750 mg	70 mL ³
30-36 kg (65-79 lbs)	10-14 years	2500 mg	100 mL ⁴ (1/2 bottle)
Adult 37 40 kg (80-88 lbs)	>14 years	3000 mg	120 mL ⁴
Adult 41 49kg (89-108 lbs)	>14 years	3500 mg	140 mL ⁴
Adult > or 50 kg (> or 109 lbs)	>14 years	5000 mg	200 mL ⁴ (full bottle)

¹The safety and efficacy in pediatrics has not been established, ²Administer slowly over 15 minutes.

³Push slowly over 15 minutes, ⁴Infuse over 15 minutes

Used in the Following Protocols

Cyanide Exposure (Section 10 Special Operations)