

N. Hydroxocobalamin (Cyanokit®)

- I. Classification
 - Cyanide antidote
- II. Actions
 - Binds cyanide ions with more affinity than hemoglobin molecule
 - Cyanide ion and hydroxocobalamin form cyanocobalamin (Vitamin B12) which is then excreted in the urine.
- III. Indications
 - Known or suspected cyanide poisoning - patients at high risk (industrial accidents, fire victims with smoke inhalation, known overdose, etc) with one more more of the following symptoms:
 - Altered mental status, confusion, seizures, coma
 - Headache
 - Chest pain or tightness
 - Shortness of breath, bradypnea, tachypnea
 - Hypertension (early), hypotension (late), cardiovascular collapse
 - Nausea, vomiting
 - Cardiac arrest
 - Mydriasis (dilated pupils)
- IV. Contraindications
 - Known allergic reaction to hydroxocobalamin or cyanocobalamin
- V. Adverse effects
 - A. Cardiovascular
 - Ventricular extrasystoles
 - Tachycardia
 - Transient hypertension
 - B. Neurological
 - Memory impairment
 - Dizziness
 - Restlessness
 - C. Respiratory
 - Dyspnea
 - Dry Throat
 - Throat tightness
 - D. Gastrointestinal
 - Abdominal discomfort
 - Dysphagia
 - Vomiting, diarrhea
 - Hematochezia
 - E. General
 - Allergic reaction, pruritis, anaphylaxis
 - Hot flush

VI. Administration

- A. Do not administer hydroxocobalamin through the same IV site/set as the following medications: **dopamine, fentanyl**, dobutamine, diazepam, nitroglycerin, pentobarbital, propofol, thiopental, sodium thiosulfate, sodium nitrite and ascorbic acid. You must start a second IV to administer hydroxocobalamin in patient's receiving these medications.
- B. Adult:
- 5 grams IV/IO over 15 minutes (Stocked as single 5gm bottle, or two 2.5 gm bottles)
 - Single 5 gm Bottle
 - Reconstituted with 200 ml Normal Saline.
 - Two 2.5 gm Bottles, give over 7.5 minutes each.
 - Each vial reconstituted with 100 ml Normal Saline.
- C. Pediatric
- 100 mg/kg IV/IO of hydroxocobalamin (reconstituted with Normal Saline the same as adults) over 15 minutes.
 - Reconstituted hydroxocobalamin is at a concentration of 25 mg/ml.
- D. May repeat a full dosage once after 15 minutes if patient is still severely symptomatic.

Table 9-2 : Hydroxocobalamin (Cyanokit®) Pediatric Dosing
(2500 mg in 100 ml)

AGE	KG	MG	ML
Preemie	2	200	8
Newborn	4	400	16
4 MO	6	600	24
6 MO	8	800	32
1 YR	10	1000	40
2 YR	12	1200	48
3 YR	15	1500	60
4 YR	17	1700	68
5 YR	20	2000	80
6 YR	22	2200	88
7 YR	25	2500	100
8 YR	27	2700	108
9 YR	30	3000	120
10 YR	35	3500	140
11 YR	40	4000	160
12 YR	50	5000	200
13-15 YR	60	5000	200