

The Nova Scotia Antidote Program is pleased to present another Quarterly Report, which provides information on changes and trends in antidote therapy and reports ongoing Provincial Antidote usage.

Antidote usage Jan 1 to Mar 31, 2022						
Western Zone	Northern Zone	Eastern Zone	Central Zone	IWK	Quarterly Total	Year to Date
6	5	5	18	0	34	34

Highlights of antidote use during the past 3 months

A total of **34 antidotes** were used in **31 different patient cases**. Of these, 5 antidotes were used by community hospitals, 18 in regional facilities and 11 in tertiary hospitals.

- Naloxone was the most used antidote during the 2022 quarter #1 period. It was used 20 times in known or suspected opioid toxicity. There was distribution in use over all hospital types.
- Fomepizole was used 3 times for suspected toxic alcohol toxicity.
- There was one use of Hydroxocobalamin, the antidote used to treat cyanide toxicity.

Hydroxocobalamin for Cyanide Toxicity

Cyanide is a dangerous toxin that blocks the generation of ATP produced via oxidative phosphorylation. Exposure to Cyanide can occur by a variety of different sources including fires, industrial processes (extractions of metals in mining, jewellery production, etc) and some foods (seeds and nuts in the Rosaceae – Rose family). Clinical manifestations of Cyanide depend on the route of exposure and can sometimes be difficult to assess. Patients can present with headache, confusion, tachypnea and possibly a “cherry-red” color of the skin. Lab findings may show a severe anion gap metabolic acidosis with an elevated lactate. Patients presenting with significant smoke inhalation exposures relating to fire should be treated with high clinical suspicion for Cyanide toxicity.

Hydroxocobalamin is the principal antidote offered for Cyanide toxicity. It binds Cyanide with greater affinity than the cytochrome oxidase. There is a 5 g dose of Hydroxocobalamin available in every antidote kit, including the community kits. This antidote is widely available due to importance of immediate administration for patients with suspected Cyanide toxicity and accompanying symptoms of hypotension, lactate >8-10 mmol/L, severe metabolic acidosis or coma. This treatment is offered alongside aggressive supportive care and resuscitation. The dose is 5 g IV over 15 minutes in adults and 70mg/kg (max 5 g) IV over 15 minutes in pediatric patients. Repeat doses can be administered based on severity. Do not hesitate to call the Poison Centre in cases of suspected Cyanide Toxicity.

It is important to contact the Poison Centre for a number of reasons.

1. We can help with the management of patients with **acute or chronic drug toxicity** and with appropriate use of antidotes and other treatments. For example – we can help with assessing the need for Digoxin Immune Fab in chronic digoxin toxicity and recommend appropriate dosing.
2. As part of the Provincial Antidote Program, we are required to track the use of all antidotes.
3. Data from the Atlantic Canada Poison Centre is used to monitor and track exposures, including poisonings, overdoses, accidental exposures, adverse events etc. across Nova Scotia.

Contact the Poison Centre – 1-800-565-8161