

Nova Scotia Antidote Program

2019 Quarterly Report #2

April 1, 2019 to June 30, 2019

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 April 1 to June 30, 2019						
Western Zone	Northern Zone	Eastern Zone	Central Zone	IWK	Quarterly Total	Year to Date
13	6	7	19	0	45	85

Highlights of antidote use during the past 3 months

A total of **45 antidotes** were used in **36 different patient cases**. Of these, 3 antidotes were used by community hospitals, 36 in regional facilities and 6 in tertiary hospitals.

- **Hydroxocobalamin** (CyanoKit) was reported to be used in 1 case of cyanide toxicity.
- Use of **Naloxone** was reported for 18 patients. *To ensure we are tracking opioid overdose and naloxone use, please report cases where naloxone is used to the Poison Centre at 1-800-565-8161*
- **Fomepizole** was given in 3 patients with suspected toxic alcohol ingestion (methanol / ethylene glycol)
- **Sodium Bicarbonate** was reported as given for 8 patients
 - 6 patients had a wide QRS, likely from sodium channel blockade (i.e. amitriptyline). In these cases sodium bicarbonate is given as a BOLUS, in an effort to flood the sodium channels.
 - 2 patients had acute salicylate toxicity. For these cases, sodium bicarbonate is given as an INFUSION, in an effort to alkalinize the urine and promote excretion of salicylates, keeping it out of the CNS.

Hydroxocobalamin

Hydroxocobalamin (CyanoKit) is used to treat cyanide toxicity. Cyanide toxicity can result from smoke inhalation (hydrogen cyanide gas) or ingestion of cyanide salts. *How does it work?* The cobalt ion in hydroxocobalamin combines with cyanide to form cyanocobalamin (vitamin B₁₂), which is non-toxic.

The initial dose of hydroxocobalamin in adults is 5 grams. Through the Provincial Antidote Kit Program, each kit contains one dose (5 grams). Depending on the severity of poisoning and clinical response, the same dose may be repeated. If a second dose is required, you will need to get it from another hospital's Antidote Kit. *This "sharing" of antidotes is a fundamental part of the Antidote Program.* It is important that each facility is aware of their process for acquiring additional antidotes as needed.

Pyridoxine

There is currently some uncertainty about the future availability of IV pyridoxine, which is used to treat seizures associated with INH or gyromitra mushroom toxicity. We are hoping that the product will be available within the next month or two, but this has not been confirmed by the manufacturer. All of the stock in the Antidote Kits expires at the end of July 2019. Pyridoxine can also be given orally, at the same dose, in a slurry via NG tube. When it expires, the IV pyridoxine in the Antidote Kits will be replaced by a **bottle of pyridoxine tablets**. The antidote monograph will be changed to add this new dosing route and administration directions.

Physostigmine – soon to be added to the Antidote Kit!

Physostigmine is a reversible acetylcholinesterase inhibitor which is used to treat anticholinergic toxicity. It is given by IV, with doses repeated until clinical effect. In Canada, physostigmine is available through the Special Access Program. The NS Antidote Program will be recommending that each Antidote Kit carry 4mg of physostigmine (available as 1mg/mL; 2mL ampoule). Further information will follow, including the antidote monograph and completed SAP form.