

DATE:	6 April 2026
TO:	All Healthcare Providers
FROM:	Clinical Biochemistry and Hematopathology, Alberta Precision Laboratories
RE:	Laboratory Implementation of the Cyanokit Reporting Protocol at Provincial Urban Hospital Sites

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Key Message

- Effective **Tuesday April 7**, the Cyanokit Reporting Protocol will expand to urban hospital laboratories outside the Edmonton Zone (**see Appendix, Table 1 for applicable sites**).
- Cyanokit (hydroxocobalamin) causes red discoloration of blood and urine that can persist for days, leading to inaccurate or invalid results for multiple tests (**Appendix, Table 2**).
- When specimens from patients who have received Cyanokit are identified, the laboratory may cancel affected tests, add interpretive comments, or perform reflex testing using alternative assays.

Background

- Cyanokit is used to treat cyanide poisoning, most commonly from smoke inhalation, and less often for vasoplegic syndrome after cardiothoracic surgery.
- Studies performed in Edmonton demonstrated significant analytical interference across chemistry, urinalysis, blood gas, hematology, and coagulation instruments.
- The protocol has been in place at Edmonton urban hospital laboratories since 2019; provincial expansion will standardize specimen identification and result reporting.
- Specimen identification relies on a Connect Care rule that triggers only when Cyanokit is administered in the hospital and not by EMS; this means some cases will not be automatically detected by the laboratory.

How this will impact you

- For patients receiving Cyanokit, certain tests may be cancelled or reported with warning comments to prevent misinterpretation of inaccurate results.

Action Required

- Be aware of Cyanokit-related test interferences at applicable sites (**Appendix Table 1**) and the laboratory tests most significantly impacted (**Appendix Table 2**).
- Notify the laboratory immediately when a patient receives Cyanokit, especially if administered by EMS, so affected specimens can be correctly identified.
- When possible, draw required bloodwork before Cyanokit administration.
- If a cancelled test is urgently needed, contact the on-call Biochemist or Hematopathologist for guidance.

Questions/Concerns

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Approved by

- Dr. Carolyn O'Hara, Chief Medical Laboratory Officer, APL



Appendix

Table 1. Urban hospital sites using the laboratory Cyanokit Reporting Protocol

Sites
Alberta Children’s Hospital (ACH)
Chinook Regional Hospital (CRH)
Foothills Medical Centre (FMC)
Grey Nuns Community Hospital (GNH)
Grande Prairie Regional Hospital (GPRH)
Misericordia Community Hospital (MCH)
Medicine Hat Regional Hospital (MHRH)
Peter Lougheed Centre (PLC)
Royal Alexandra Hospital (RAH)
Red Deer Regional Hospital (RDH)
Rockyview General Hospital (RGH)
Sturgeon Community Hospital (SCH)
South Health Campus (SHC)
University of Alberta Hospital (UAH)

Table 2. Laboratory protocol for reporting or canceling tests impacted by Cyanokit

Degree of impact	*Tests (reflex testing, if applicable)	Reported or cancelled?
High	<ul style="list-style-type: none"> • <u>Urinalysis</u>: Dipstick (reflexed to microscopic urinalysis) • <u>Chemistry</u>: Ammonia, Amylase, ALT, AST, Total Cholesterol, CK, Folate, IgM, PTH, Iron, Iron Saturation Index, LD, Triglyceride, TIBC • <u>Hematology</u>: Hb and MCHC (reflexed to CBC, no differential; recommend using RBC and HCT instead) • <u>Coagulation</u>: Anti-Xa, Antithrombin, PTT/INR/Thrombin Time (reflexed to Fibrinogen and reported after sample dilution) 	*Cancelled.
Moderate	<ul style="list-style-type: none"> • <u>Chemistry</u>: Conjugated Bilirubin, Total Bilirubin, Estradiol, LH, Prolactin, Progesterone, Lab MetHb[#], Lab COHb[#], Lab VBG[#] • <u>Coagulation</u>: DDIM, Fibrinogen (reported after sample dilution) 	Reported with an interpretive comment.
Low	<ul style="list-style-type: none"> • <u>Chemistry</u>: Acetaminophen, Albumin, ALP, Anti-thyroglobulin, C3, C4, Calcium, Carbamazepine, Total CO₂, Chloride, Creatine, CRP, hsCRP, Cystatin C, Ethanol, Ferritin, FSH, FT3, FT4, Gentamicin, GGT, Glucose, Haptoglobin, hCG, HDL, IgA, IgG, Potassium, Lactate, Lipase, Lithium, Magnesium, Osmolality, Sodium, NT-proBNP, Phenobarbital, Phenytoin Phosphate, Prealbumin, Salicylate, Thyroglobulin, Tobramycin, Total Protein, Troponin T, TSH, Urate, Urea, Valproate, Vancomycin • <u>Hematology</u>: CBC/CBCD (except Hb and MCHC), Platelets 	Reported with an interpretive comment.

*Other tests not listed will be cancelled by the laboratory.

[#]Results from point of care testing (POCT) blood gas analyzers will continue to be reported until further notice.