

DATE:	5 May 2023
TO:	All Zones: Ordering providers, Nurses, Laboratory Directors and Managers
FROM:	DynaLIFE Medical Labs (DL) and Alberta Precision Labs (APL)
RE:	Changes to Hemoglobinopathy Testing and Reporting

PLEASE POST OR DISTRIBUTE AS WIDELY AS APPROPRIATE

Key Message

- **Effective May 6, 2023**, there will be several changes to hemoglobinopathy testing and reporting which will affect all Zones across the province at different levels:
 - Calgary and South Zones:
 - Two Connect Care orderable procedures will be available: (1) Hemoglobinopathy Investigation Panel, and (2) Hemoglobin F and S Quantitation (see table below for ordering guidance)
 - Biochemical testing will be performed by DynaLIFE Medical Labs – Calgary DSC
 - The method for hemoglobin fractionation will change from high performance liquid chromatography (HPLC) to capillary electrophoresis (CE).
 - All Zones:
 - Molecular testing and integrated hemoglobinopathy report will continue to be performed by APL Hematopathology/ Molecular Pathology (now extended province-wide).
 - Updates to the report format, and to HbF reference interval for patients up to 2 years of age.

Background

- The changes to hemoglobinopathy testing will be in alignment with provincial standardization of hemoglobinopathy ordering, testing and reporting, and reference intervals:
 - CE is a widely used, high-resolution method for hemoglobin fractionation.
 - HbF levels are highly variable up to 2 years of age. Appropriate HbF reference intervals have not been established for this population.

How this will impact you

- Connect Care orderable procedures for initial investigation and ongoing monitoring of hemoglobinopathies:

Orderable Procedure <i>Test(s) Performed</i>	Hemoglobinopathy Report Format	When to Order
Hemoglobinopathy Investigation Panel [LAB288] (DL) <i>Capillary electrophoresis, CBC, Ferritin, Iron and TIBC</i>	Percentages of HbA, HbA2, HbF, HbS, HbC, and Other Hemoglobin Variants*; Interpretation <i>Note: Reflex order to gel electrophoresis and/or molecular studies will be triggered by DL and will be reported accordingly (DL and APL).</i>	Investigation for the presence of structural hemoglobin variants and/or thalassemias .
Hemoglobin F and S Quantitation [LAB4951] (DL) <i>Capillary electrophoresis</i>	Percentages of HbA, HbA2, HbF, HbS, HbC, and Other Hemoglobin Variants*; Interpretation	Monitoring patients with a previously characterized hemoglobinopathy .
Reflex Molecular Testing Procedures (APL)	Integrated Hemoglobinopathy Report: Clinical summary, Summary of Hemoglobinopathy investigation panel, Molecular Tests (PCR, MLPA, NGS etc.), Interpretation	Lab originated reflex order only



- *A quantitative value will be reported for Other Hemoglobin Variants (if present), which will reflect the summation of any hemoglobins other than HbA, HbA2, HbF, HbS, and HbC, and will flag as abnormal.
- HbF results for patients up to 2 years of age will be reported with “No reference interval”. The current HbF reference interval (<1.8%) will remain for patients greater than or equal to 2 years.

Action Required

- When investigating or monitoring hemoglobinopathies, ensure the most appropriate test is ordered and be aware of the changes to hemoglobinopathy testing method, report format and reference intervals.

Questions

- DynaLIFE Clinical Chemists, 780-451-3702 ext. 3572 or clinical.chemists@dynamylife.ca
- APL Hematopathology/Molecular Pathology 403-944-4754

Approved by

- Dr. Mathew Estey, Provincial Director of Chemistry, DynaLIFE Medical Labs
- Dr. Erene Farag, Medical Director, DynaLIFE Medical Labs
- Dr. Meer-Taher Shabani-Rad, Hematopathology Section Chief, Alberta Precision Labs
- Dr. Dylan Pillai, Head of DPLM, Medical Director, South Sector, APL