

DATE:	6 August 2024
TO:	All Zones: AHS Healthcare Professionals and Providers that use and/or perform blood gas testing
FROM:	Clinical Biochemistry and Point of Care Testing (POCT), Alberta Precision Laboratories (APL)
RE:	Reporting Changes for Partial Pressure of Oxygen (pO₂) in Blood Gas Panels

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Key Message

- Effective August 15, cord blood gas panels will include a partial pressure of oxygen (pO₂) result along with reference intervals and an interpretive comment. Moreover, all blood gas panels will report pO₂ to one decimal place.

Background

- In preparation for Connect Care, the Blood Gas Reference Range and Critical Value Standardization Working Group was created in 2017 to standardize blood gas panels, reference intervals, and critical values provincially.
 - Table 1** summarizes pO₂ reporting decisions made at the time based on available information and feedback from clinical stakeholders (refer to “Initial Connect Care Implementation” column).
- Additional review over the last five years revealed a need to adjust pO₂ reporting as outlined in **Table 1** (“New Changes” column). These changes enable additional patients to be eligible for Alberta Health-funded home oxygen therapy. They also align cord blood pO₂ reporting with recommendations from the Society of Obstetrics and Gynecologists of Canada (SOGC Clinical Practice Guideline. No. 396-Fetal Health Surveillance: Intrapartum Consensus Guideline. 2020) and the AHS Fetal Health Surveillance Practice Support document (page 8).

Table 1: Current and new reporting details for pO₂ in blood gas panels

Sample Type	Initial Connect Care Implementation	New Changes (from August 15 th onward)
Arterial, venous, mixed venous, central venous, capillary, ECMO, and cardiopulmonary blood	<ul style="list-style-type: none"> Report pO₂ without any decimal places 	<ul style="list-style-type: none"> Report pO₂ to one decimal place
Cord blood	<ul style="list-style-type: none"> Do not report pO₂ at all 	<ul style="list-style-type: none"> Report pO₂ with one decimal place Append interpretive comment: <i>Reference intervals: pO₂ Cord Venous: 15-40 mmHg pO₂ Cord Arterial: 5-30 mmHg</i> <i>pO₂ > 40 mmHg suggests contamination with air, therefore true pCO₂ value within the same cord sample may be higher than reported.</i>



How this will impact you

- With the addition of one decimal place for pO2 results, healthcare professionals and providers will be able to make more informed decisions about patient eligibility for Alberta Health-funded home oxygen therapy.
- With the addition of arterial and venous cord pO2 results, healthcare professionals and providers will be able to make more informed decisions about the care of newborns, especially if concerns exist about fetal oxygenation at birth.
 - Healthcare professionals and providers that perform blood gas testing may receive more inquiries for timely testing of cord blood samples.

Action Required

- Be aware of the new changes to pO2 reporting in blood gas panels.
- If needed, work with laboratory and clinical stakeholders on revising sample collection and testing workflows to provide more timely cord blood gas testing.

Effective August 15, 2024

Questions/Concerns

Clinical Biochemistry:

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Approved by

- Dr. Michael Mengel, Medical Director, North Sector, APL
- Dr. Travis Ogilvie, interim coverage for Dr. Kate O’Connor, Medical Director, South Sector, APL
- Dr. Allison Venner, Provincial POCT Medical Lead, APL

Effective September 1, 2023, APL has become the sole provider of all public lab services in Alberta. As a result, community lab services formally provided by DynaLIFE Medical Labs will become the responsibility of Alberta Precision Labs (APL). This change impacts all zones.