

DATE: June 7, 2021

TO: BC Perinatal Providers

FROM: Perinatal Services BC

RE: **NOVA STATSTRIP (NSS) LACTATE METER Provincial Recommendation**

A Provincial Laboratory Medicine Services memo has been circulated earlier this year outlining the fluctuating changes in both the bias and the precision of the NSS Lactate meter. The memo described the accuracy issues and proposed a recommendation.

Information from Provincial Laboratory Medicine Services Memo

Bias: *The current NSS Lactate measurement bias, relative to a whole blood gas analyzer, is approximately -0.5 mmol/L, for samples with a lactate concentration of 4 - 5 mmol/L (estimate from St Paul's Hospital¹). In 2015, and 2018, this relative bias was estimated at -0.2 mmol/L and -1.3 mmol/L, respectively. This degree of relative bias has been noted at all hospitals sites using or evaluating the NSS Lactate meter in BC. The vendor has no explanation for the observed changes in the meter performance over time.*

Precision: *The current precision of the meter is estimated to be a standard deviation of 0.5 mmol/L (or 10%) at a lactate level of 5 mmol/L (estimate provided by the vendor).*

Lab Recommendation: *The previous criteria for interpretation of FSL measurements must be adjusted to accommodate the fluctuating change in the NSS Lactate measurement bias, as well as the relatively high imprecision error of a given measurement.*

Based on the outlined evidence, a provincial meeting was held to discuss the clinical implications of the findings and review the recommendation. **An agreement was reached that BC should adopt the proposed Provincial Laboratory Medicine Services recommendation of adjusting the previous criteria for interpretation of Fetal Scalp Lactate measurements when it comes to the NSS Lactate meter.**

The adjustment to the range is as follows:

It is recommended that all BC maternity sites enact the new range when using the Nova StatStrip Lactate meter for Fetal Scalp Lactate Testing. The NEW range is as per Table 1.

Table 1. Interpretation of FSL measurements (mmol/L) performed by Nova StatStrip Lactate meter

	Year	Reassuring Range	Indeterminate Range	High Risk Range
CURRENT	2014/5*	< 4.2	4.2 – 4.8	> 4.8
NEW	2021 and forward	< 3.0	3.0 – 4.5	> 4.5

* Year of implementation at the BC Women's Hospital and St Paul's Hospital.