Pathology and Laboratory Medicine Memorandum

To: NSHA Physicians, Health Service Directors, Nova Scotia Laboratories

From: Program of Pathology and Laboratory Medicine

Date: March 25, 2019

Subject: **Use of the Nova StatStrip Point of Care Glucose Meters**

Since October 2018, NSHA has been transitioning Point of Care (POC) glucose testing to the new Nova StatStrip meters in each zone.

The benefits of the Nova Stat meter are as follows:

- It is the only FDA/Health Canada approved device for use throughout all healthcare settings including critical care.
- Use of any other glucose meter with critically ill patients is considered off label by the FDA.
- It is the only glucose meter with no known clinical interferences on more than 8,000 tested medications, as it measures and corrects for interferences, hence avoiding patient mismanagement due to false results.

Notes on specific limitations:

- In general, a POC glucose (whole blood) result may be up to 20% lower than that obtained by the laboratory method (plasma/ serum), particularly with very low or high POC glucose values (e.g. <2.2 mmol/L or >20 mmol/L). This bias is dependent on the specific in-laboratory method used and/or specimen collection techniques.

  Note: Improper collection techniques during POC glucose testing contribute to the greatest discrepancies with in-laboratory testing (e.g. incorrect lancet or skin site, undue squeezing of skin site, and/or improper cleaning/disinfecting of skin site).

- The above mentioned negative bias may be concerning for some neonatal units. Pathology and Laboratory Medicine (PLM) will ensure that meters determined to have the least bias will be provided for these locations.
- PLM recommends that POC glucose values that are <2.2 mmol/L by POC are confirmed with an in-laboratory method and a repeat POC test is performed on the original POC instrument from the same sample as the laboratory draw.

It is of note that the IWK Health Centre as well as Sick Kids in Ontario are successfully using the Nova StatStrip for this patient population. The neonatal hypoglycemia protocol at the IWK recommends values < 1.8 mmol/L be acted upon (e.g. feed the baby/administer insta-glucose) *concurrently* with confirmation by in-laboratory testing, while values between 1.8 mmol/L and 2.2 mmol/L be confirmed by in-lab testing.

If you have any questions, please contact Adam Hardy at Adam.Hardy@nshealth.ca