

Feb 26, 2021

New Nova StatStrip Glucose Meters: Update to Normal Ranges and Critical Ranges

Background:

A provincial laboratory medicine group recommended a change in hospital glucose meters from the Roche Accu-Chek® Inform II meter to the Nova StatStrip® meter for reasons of improved reliability*. In the process of preparing for implementation in B.C., we identified variance in health authority specific meter configuration of age partitions and normal and critical ranges.

Provincial recommendations on New Glucose Meter Ranges:

To standardize these meter configurations and result documentation in Cerner, a provincial laboratory medicine group reviewed the latest guidelines and literature** and consulted key stakeholders including clinical practice leads, neonatologists, endocrinologists representatives as well as Cerner working groups. Since the Cerner blood glucose result documentation ranges are age-specific, and since the glucose meters are only able to incorporate one set of ranges configuration, the following new glucose meter ranges are recommended:

Nova StatStrip glucose meter configuration	Cerner CST Blood Glucose result documentation	Current Normal Range (mmol/L)	NEW Normal Range (mmol/L)	Current Critical Results (mmol/L)	NEW Critical Results (mmol/L)
Neonate (all VPP sites)	Neonate (< 28 days)	2.7 – 5.5	2.7 – 7.0	< 2.0 > 10.0	< 2.0 > 20.0
Non-neonate (CW only)	Pediatric (≥ 28 days to < 17 years)	NA	4.0 – 7.0	NA	< 2.6 > 25.0
Non-Neonate (all VPP sites)	Adults (≥ 17 years)	4.0 – 11.0	4.0 – 11.0	< 2.0 > 30.0	< 2.6 > 25.0

What does this mean?

At PHC, there will be two glucose meter configurations: neonate and non-neonate. The neonate meters will be used for the neonate population in Maternity and NICU. The non-neonate (adult) meters will be used in the remaining locations in PHC. If a non-neonate (adult) meter is used on a pediatric patient, there may be discordance in reporting results i.e. blood glucose results > 7.0 mmol/L will be flagged as high in Cerner, even though it is within the normal range of the non-neonate (adult) meter 4.0 - 11.0 mmol/L.

Questions?

Sheri Young
PHC Point-of-Care & Quality Assurance Technical Coordinator
skyoung@providencehealth.bc.ca
T: 604-682-2344 Ext: 63006

Dr. Angela Fung
Clinical Chemist, PHC POC Chemistry Lead
afung7@providencehealth.bc.ca
T: 604-806-8194

*The Nova StatStrip meter has Health Canada approval for use in an intensive care setting, as it is specifically unaffected by variations in hematocrit or by the presence of high concentrations of galactose, N-acetylcysteine, or vitamin C. As the reliability of the Nova StatStrip meter is higher than the previous Roche Accu-Chek meter, clinicians can have more confidence in using the test results to guide clinical decisions. However, similar to any laboratory test result that does not appear to match the clinical status of the patient, independent verification of unexpected Nova StatStrip glucose results is still recommended, in this case, by measurement of laboratory plasma glucose.

**References include: (1) Screen guidelines for newborns at risk for low blood glucose. Ped Child Health (2004). (2) Thorton PS. Recommendation from the Pediatric Endocrine Society for Evaluation and Management of Persistent Hypoglycemia in Neonates, Infants, and Children. J Ped (2015). (3) Don-Wauchope AC et al Pediatric critical values: Laboratory-pediatrician discourse. Clin Bioch (2009). (4) Policy and Orders at CW BC.