



**DATE:** May 29, 2014  
**TO:** Pediatric Emergency, Critical Care, and NICU Physicians  
**FROM:** Dr. Tony Chetty, Discipline Director, Clinical Chemistry and Immunology  
**RE: NEW BLOOD GAS ORDERS FOR CRITICALLY ILL CHILDREN**

The laboratory recently offered two new order codes within the blood gas panel for use in critically ill patients (CRITABG and CRITVBG). These orders require collection with a blood gas syringe. Effective June 16, a further test order code will be added to allow the expanded test panel to be offered for samples collected on critically ill children using capillary collection.

Test	Test Specific Orders	CRITCBG	Pediatric Critical Values
Hemoglobin		√ May not be available, depending on sample volume	
Random Glucose	√	√	≤ 1.7 mmol/L (< 3 days old) ≥ 16.7 mmol/L (< 3 days old) (1 <sup>st</sup> occurrence) ≤ 2.5 mmol/L (> 3 days old) ≥ 20 mmol/L (> 3 days old) (1 <sup>st</sup> occurrence)
Sodium		√	≤ 125 mmol/L ≥ 150 mmol/L
Potassium		√	≤ 2.0 mmol/L (neonates) ≥ 7.0 mmol/L (neonates) ≤ 2.5 mmol/L (children) ≥ 6.0 mmol/L (children)
Chloride		√	
Lactate	√	√	≥ 4.0 mmol/L
Hydrogen Ion		√	
pH		√	≤ 7.25 ≥ 7.60
pCO <sub>2</sub>		√	
pO <sub>2</sub>		√	≤ 40 mmHg
Bicarbonate (Calc)		√	≤ 10 mmol/L
Base Excess		√	
O <sub>2</sub> Sat Measured		√ May not be available, depending on sample volume	
Ionized Calcium	√		≤ 0.8 mmol/L ≥ 1.6 mmol/L

Please note, potassium values measured on whole blood balanced heparin capillary tubes have a **slight negative bias (approximately 4%)** compared to potassium samples from lithium heparin collection devices.

If you have questions, contact Dr. T. Chetty at [chetty@hhsc.ca](mailto:chetty@hhsc.ca) or Dr. Stephen Hill at [hillstev@hhsc.ca](mailto:hillstev@hhsc.ca).