

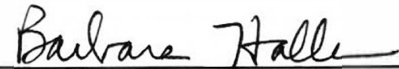
Point of Care Testing: Blood Gas, Electrolyte, Glucose, Hematocrit, Lactate, Carboxyhemoglobin, and Methemoglobin by the GEM4000 Premier; upgraded to GEM5000 Premier Analyzer on 6/28/2022

UNIT: Operating Room Department

Date: 1-22-20



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 Chief of Anesthesia



Barbara Haller, MD, PhD
 Director, Clinical Laboratory

Clinical Indication

Test(s)	Indication(s) for Anesthetized Patients During Surgery
pH, O2Hb, pO2, pCO2,	Assessment of adequate ventilation and acic/base homeostasis
K+, Na+, Ca++ (ionized)	Rapid detection of critically important electrolyte abnormalities
Hct, tHb	Rapid detection of significant anemia
Glucose	Rapid detection of hypo- or hyperglycemia
Lactate	Early detection of hypoperfusion (shock), metabolic status and assessment of therapy
CoHb, MethHb	Early detection of Carbonmonoxide intoxication and dysfunctional Hemoglobin

Documentation

The results will be electronically transferred to the Electronic Medical Record.

Clinical Action

Test(s)	Results relative to Reference Ranges ("Normal Values")*		
	Within Range	Outside	Critical Result(s)
pH, O2Hb, pCO2, pO2	none	Adjustment of ventilation per CRNA/MD orders based on test results, ventilator settings and patient condition.	If a patient's test result is in the critical value range it must be relayed to the attending staff IMMEDIATELY with the emphasis that the result(s) is in the critical range. If appropriate, repeat the test, or take action of treatment
K+, Na+, Ca++(ionized)		Management of fluids and electrolytes per CRNA/MD orders based on the results.	

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Hct, tHb		Transfusion of red blood cells per MD/CRNA order depending on patient's condition	and check the effect of the treatment.
Glucose		Results below Ref Range: Glucose 50% per MD/CRNA order, repeat glucose measurement 30 minutes later. Results above Ref Range: insulin iv per MD/CRNA order, repeat glucose measurement 30 minutes later.	
Lactate		Management of fluid therapy, medical treatment or transfusion depending on the patient's conditions.	
CoHb, MetHb		Management of ventilation therapy and medical treatment depending on the patient's conditions.	

*See GEM4000 Point of Care Test Results

Critical Results:

pH	< 7.25 or > 7.55	K+	< 3.0 or > 6.0 mmol/L
pO2	< 40 mmHg; Neonates: < 40 or > 100 mmHg	Na+	< 130 or > 149 mmol/L
pCO2	< 25 or > 65 mmHg	Ca++ (ionized)	0.8 or > 1.55 mmol/L
tHb	< 8 or > 20 g/dL	Glucose	< 50 or > 500 mg/dL Neonates: < 30 or > 170 mg/dL
CoHb	>14.9%	Lactate	> 3.9 mmol/L
MetHb	>14.9%		

For Reference Ranges (arterial versus venous blood sample), please see GEM4000 Point of Care Test Results and Reference Range Sheet.