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CH02-011 Clinical Biochemistry Critical Values - CGY

Critical Values are to be called:

**As soon as the result is available
24 hours a day**

For all patients, unless otherwise noted

LIC Exception: Critical values greater than 7 days post collection will only be faxed

Critical Values are for Blood unless otherwise note

Analyte	Critical Value		
Acetaminophen	Greater than 250 µmol/L		
Acetone	Greater than 6 mmol/L		
Amikacin	Pre-Dose: Greater than 10.0 mg/L Post-Dose: Greater than 40.0 mg/L Other: Greater than 40.0 mg/L		
Amiodarone	Greater than 5.4 µmol/L		
Ammonia	Less than 17 years: Greater than 110 µmol/L Greater than or equal to 17 years: Greater than 200 µmol/L		
Bilirubin, Total	Less than 30 days: Greater than 300 µmol/L		
Blood Gases	Arterial	Low	High
	pH	Less than 7.20	Greater than 7.60
	pCO2	Less than 20 mmHg	Greater than 70 mmHg
	pO2	Less than 56.0 mmHg	None
	HCO3	Less than 10 mmol/L	Greater than 40 mmol/L
	tHb	Less than 70 g/L	None
	COHb	None	Greater than 15%
	MetHb	None	Greater than 10%
	Venous	Low	High
	pH	Less than 7.15	Greater than 7.55
	pCO2	Less than 15 mmHg	Greater than 55 mmHg if pH <7.2
	HCO3	Less than 10 mmol/L	Greater than 40 mmol/L
	tHb	Less than 70 g/L	None
	COHb	None	Greater than 15%
	MetHb	None	Greater than 10%
	Capillary	Low	High
	pH	Less than 7.20	Greater than 7.50
	pCO2	Less than 25 mmHg	Greater than 70 mmHg
	HCO3	Less than 10 mmol/L	Greater than 40 mmol/L
	tHb	Less than 70 g/L	None
	COHb	None	Greater than 15%
	MetHb	None	Greater than 10%

Analyte	Critical Value		
	Cord Arterial	Low	High
	pH	Less than 7.15	None
	BE	Less than -10 mmHg	None
	Cord Venous	Low	High
	pH	Less than 7.15	None
	BE	Less than -10 mmHg	None
Calcium, Total	Less than 1.65 mmol/L Greater than 3.25 mmol/L		
Calcium, Ionized or pH Normalized	Less than 0.80 mmol/L Greater than 1.50 mmol/L		
Carbamazepine	Greater than 65 µmol/L		
Carboxyhemoglobin	Greater than 15%		
Clozapine	Greater than 3500 nmol/L		
Digoxin	Greater than 2.6 nmol/L		
Ethanol	Greater than 65.0 mmol/L NOTE: Not communicated to Emergency Departments at FMC, RGH, PLC and SHC		
Ethylene Glycol	Greater than or equal to 2 mmol/L		
Gentamicin	Pre-Dose: Greater than 1.9 mg/L Post-Dose: Greater than 14.9 mg/L Other: Greater than 14.9 mg/L 8hr interval: greater than 10.9		
Glucose	Less than 72 hours: Less than 2.0 mmol/L Greater than 24.9 mmol/L 72 hours - 150 years: Less than 2.6 mmol/L Greater than 24.9 mmol/L		
Iron	Less than 12 years: Greater than 54 µmol/L		
Isopropanol	Greater than 8 mmol/L		
Lactate	Greater than 4.0 mmol/L		
Lithium	Greater than 1.50 mmol/L		
Magnesium	Less than 0.40 mmol/L Greater than 1.90 mmol/L		
Methanol	Greater than or equal to 2 mmol/L		
Methemoglobin	Greater than 10 %		
Overdose Iron	Less than 12 years: Greater than 54 µmol/L		
Phenobarbitol	Greater than 190 µmol/L		
Phenytoin (Dilantin)	Less than or equal to 3 months: Greater than 80 µmol/L Greater than 3 months: Greater than 120 µmol/L		
Phenytoin, Free (Dilantin, Free)	Greater than 12.0 µmol/L		
Phosphate	Less than 0.40 mmol/L		
Potassium	Less than 29 days: Less than 3.0 mmol/L Greater than 6.4 mmol/L 29 days up to 18 years: Less than 3.0 mmol/L Greater than 6.0 mmol/L 18 years up to Unspecified: Less than 2.6 mmol/L Greater than 6.2 mmol/L		

Analyte	Critical Value
Primidone (Mysoline)	Greater than 70.0 µmol/L
Salicylate	Greater than 2.20 mmol/L
Sirolimus	Greater than 30 µg/L
Sodium	Less than 120 mmol/L Greater than 155 mmol/L
Tacrolimus	Greater than 30 µg/L
Theophylline	Greater than 110.0 µmol/L
Tobramycin	Pre-Dose: Greater than 1.9 mg/L Post-Dose: Greater than 14.9 mg/L Other: Greater than 14.9 mg/L 8 hr interval: Greater than 10.9 ACH CF patients: Greater than 25.0 mg/L
Troponin I, High Sensitivity - Access (CMGH HRH)	Greater than 49 ng/L
Troponin I - Stratus (CLH, DDHS, OGH, SDHS, VCH)	Greater than 0.50 µg/L
Troponin I - Triage Meter (ACH SHC)	Greater than 0.50 µg/L
Troponin I, High Sensitivity - mini VIDAS (HCTL BMSH OHWC)	Greater than 99 ng/L
Troponin T, High Sensitivity - Cobas pro, Cobas 8000 (DSC FMC PLC RGH SHC)	Greater than 52 ng/L NOTE: Emergency and inpatient critical TNT will not be communicated by telephone; only physicians of community patients with a critical value will be contacted.
Valproate	Greater than 1040 µmol/L
Vancomycin	Pre-Dose: Greater than 25.0 mg/L Other: Greater than 60.0 mg/L:

NOTES:

- Critical values are test results that are so abnormal that they generally indicate severe illness and require immediate medical intervention. For this reason, these values must be communicated to the attending physician immediately (*Refer to PQMPMX00018 Critical Results Reporting Process*).
- While critical values are generally indicative of acute disease requiring intervention, there are some patients with marked metabolic derangements that are physiologically fairly-well compensated. For example, renal patients can have chronically elevated potassium levels that are surprisingly well tolerated. A general rule of thumb is that chronic changes in physiological status are much better tolerated than rapid alterations.
- Some physicians or units may decline communication of critical values. In these cases, written documentation must be produced for the laboratory to comply with this request.