

NEBRASKA MEDICINE—CHEMISTRY

Listed below are the established critical limits for the Nebraska Medicine Chemistry areas, University Health Center-UNL Lab and Internal Medicine Associates-Grand Island. Results exceeding these limits are flagged as critical in the LIS and must be called to the patient's caregiver or physician. Certain life-threatening critical levels will be called each time the result is obtained (**analytes in bold print with asterisk**). Critical results for the other analytes will be called the first time obtained on a patient during one inpatient admission AND whenever it returns to critical status again. Outpatient criticals are called every time. Internal Medicine Associates-Grand Island exception: critical CO₂ are not called on patients with diagnosed COPD.

At the discretion of the section and with medical director approval, arrangements may be made to call non-critical values which are of concern.

*ANALYTE IN BOLD=CALL EVERY TIME!

*Acetaminophen	> 150.0 mcg/mL	*Fetal fibronectin	all positives
Alcohol level	> 300 mg/dL	hsTnI: High-Sensitivity Troponin I	Males: ≥ 375 pg/mL Females: ≥ 350 pg/mL
*Amikacin	> 30.0 µg/mL (random) > 30.0 µg/mL (peak) > 8.0 µg/mL (trough)	Lactic Acid	> 3.3 mmol/L Call first time critical and call if critical and no lactates have been performed for 48 hours.
Amylase	> 225 U/L	*Lithium	> 2.0 mmol/L
*Base excess (cord blood-arterial)	≥ 12 mmol/L	*Magnesium	< 1.0 mg/dL > 5.0 mg/dL (non-OB) > 8.0 mg/dL (OB)
Bilirubin, Total	>12.0 mg/dL (0-6 days) >15.0 mg/dL (≥7 days-1 year)	Methemoglobin	> 10%
*Calcium	< 6.5 mg/dL > 13.0 mg/dL	Osmolality, serum	< 260 mOsm/kg > 330 mOsm/kg
*Calcium, Ionized	< 0.90 mmol/L > 1.60 mmol/L	*pO₂ (ecmo)	<100 mmHg
*Carbamazepine	> 20.0 mcg/mL	*pCO₂ (blood gases)	< 21 mmHg > 69 mmHg
*Carbon Monoxide	> 20.0%	*pH (blood gases)	< 7.21 > 7.59
Chloride	< 75 mmol/L > 125 mmol/L	*pH (cord blood-arterial)	≤ 7.00
CO ₂	< 10.0 mmol/L > 40.0 mmol/L	*Phenobarbital	> 60 mcg/mL
Creatinine	> 7.50 mg/dL	*Phenytoin	> 30 mcg/mL
CSF Glucose	< 40 mg/dL > 400 mg/dL	Phosphorus	< 1.2 mg/dL
CSF Protein	< 11 mg/dL & > 99 mg/dL	*pO₂ (arterial)	< 40 mmHg
For infant < 1 day old	< 11 mg/dL & > 121 mg/dL	*Potassium	< 2.9 mmol/L > 6.0 mmol/L
*Digoxin	<10 year: ≥3.0 ng/mL ≥10 year: ≥2.5 ng/mL	*Salicylate	> 30.0 mg/dL
*Gentamicin	> 2.0 mcg/mL (trough) > 12.0 mcg/mL (peak) > 12.0 mcg/mL (random)	Sodium	< 120 mmol/L > 160 mmol/L
*Glucose	Neonates (≤28 days) < 45 Children (≥ 29 days up to 18 years) < 60 Adults (18 years+) <54 All ages >450	*Theophylline	> 20.0 mcg/mL
		*Tobramycin	> 2.0 mcg/mL (trough) > 12.0 mcg/mL (peak) > 12.0 mcg/mL (random)
		Troponin I	≥ 0.4 ng/mL (main lab) > 0.35 ng/mL (iStat)
		*Valproic Acid	> 200 mcg/mL
		*Vancomycin	> 25.0 mcg/mL (trough) > 80.0 mcg/mL (peak) > 80 mcg/mL (random)