

LSU Health Sciences Center-Shreveport La.
CLINICAL CHEMISTRY/LSUHSC-S
CRITICAL CHEMISTRY VALUES

<i>TEST</i>	<i>LOW VALUE</i>	<i>POSSIBLE EFFECT</i>	<i>HIGH VALUE</i>	<i>POSSIBLE EFFECT</i>
CALCIUM	<6 mg/dl	Tetany/ convulsions	>13 mg/dl	Coma
CO ₂	<10 meq/L	Complex acidosis/alkalosis	>40 meq/L	Complex acidosis/alkalosis
GLUCOSE (adult)	<40 mg/dl	Brain damage	>500 mg/dl	Diabetic coma
GLUCOSE (neonate)	<30mg/dl	Brain damage	>300mg/dl	Diabetic coma
LITHIUM			>1.5meq/L	Toxicity
MAGNESIUM	<1 mg/dl	Seizures and coma	>8.0	
PHOSPHOROUS	<1 mg/dl	Seizures and coma	>10.0	
POTASSIUM (adult)	<2.5 meq/L	Cardiac arrhythmias	>6.0 meq/L	Cardiotoxicity
POTASSIUM (neonate ≤30 days)	<3.0 meq/L	Cardiac arrhythmias	>6.5 meq/L	Cardiotoxicity
SODIUM	<120 meq/L	Hypervolemia, heart failure	>160 meq/L	Heart failure, dehydration
NEONATAL BILI (neonate)			>18 mg/dl	Brain damage
TOTAL BILI (neonate)			>18 mg/dl	Brain damage

NOTE: Neonate is considered to be any infant ≤30 days old.

REMEMBER: All panic values **MUST** be rechecked!!!!

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CRITICAL THERAPEUTIC DRUG VALUES

TEST	LINEARITY	THERAPEUTIC RANGE	FAILED VERIFY LEVEL
ACETAMINOPHEN (TYLENOL)	3-377.6 µg/ml	10-30 µg/ml	>200 after 4 hr >50 after 12 hr
AMIKACIN PEAK	0.6-50.0 µg/ml	20-35 µg/ml	>35.0
AMIKACIN TROUGH	0.6-50.0 µg/ml	≤10.0 µg/ml	>10.0
CARBAMAZEPINE	0.5-20.0 µg/ml	4.0-12.0 µg/ml	>12.0
DIGOXIN	0.1-5.0 ng/ml	0.8-2.2 ng/ml	>2.2
GENTAMICIN PEAK	0.3-10.0 µg/ml	2.0-10.0 µg/ml	>12.0
GENTAMICIN TROUGH	0.3-10.0 µg/ml	≤2.0 µg/ml	>2.0
METHOTREXATE	0.02-1000 µmol/L	5.0-100.0 µmol/L at 24 hr 0.5-1.0 µmol/L at 48 hr <0.2 µmol/L at 72 hr	Toxic: >10 at 24 hr >1.0 at 48 hr >0.2 at 72 hr
PHENOBARBITAL	0.5-80.0 µg/ml	15-40 µg/ml	>60.0
PHENYTOIN	0.5-40.0 µg/ml	10.0-20.0 µg/ml	>20.0
SALICYLATE	5.0-100.0 mg/dl	15-30 mg/dl	Toxic >30 Lethal >70
THEOPHYLLINE	0.5-40.0 µg/ml	ASTHMA: 10.0-20.0 µg/ml NEONATAL APNEA: 5.0-10.0 µg/ml	>20.0
TOBRAMYCIN PEAK	0.0-10.0 µg/ml	5-12 µg/mL	>12.0
TOBRAMYCIN TROUGH	0.0-10.0 µg/ml	<2 µg/mL	<2.0
VALPROIC ACID	12.5-150.0 µg/ml	50.0-100.0 µg/ml	>125.0
VANCOMYCIN PEAK	1.1-100.0 µg/ml	20.0-40.0 µg/ml	>80.0
VANCOMYCIN TROUGH	1.1-100.0 µg/ml	0-18 yr 5.0-10.0 >18 yr 5.0-15.0	0-18 yr >10.0 >18 yr >15.0