کد سند: SC-LA-۰۲	محدوده بحرانی آزمایشات	
Blood Chemistry	**Low**	**High**
Ammonia	None	>٤٠ µ mol/L
Amylase	None	>٢٠٠ U/L
Arterial pCO_2	<٢٠ mm Hg	>٧٠ mm Hg
Arterial pH	<٧,٢ U	>٧,٦ U
Arterial pO_2 (adults)	<٤٠ mm Hg	None
Arterial pO_2 (newborns)	<٣٧ mm Hg	٩٢ mm Hg (SD=١٢)
Bicarbonate	<١٠ mEq/L	>٤٠ mEq/L
Bilirubin,total (newborns)	None	>١٥ mg/dL
Calcium	<٦ mg/dL	>١٣ mg/dL
Carbon dioxide	<١٠mEq/L	>٤٠ mEq/L
Cardiac troponin T (cTnT)	None	>٠,١ µg/L
Cardiac troponin I (cTnI)	None	>١,٦ µg/L
Chloride	<٨٠ mEq/L	>١١٥ mEq/L
CK	None	>٣-٥ × upper limit of normal (ULN)
CK-MB	None	>٥٪ or ≥١٠ µg/L
Creatinine (except dialysis patients)	None	>٥,٠ mg/dL
Gluocose	<٤٠ mg/dL	>٤٥٠ mg/dL
Gluocose (newborn)	<٣٠ mg/dL	>٣٠٠ mg/dL
Magnesium	<١,٠ mg/dL	>٤,٧ mg/dL

Phosphorus	<١ mg/dL	None
Potassium	<٢,٨ mEq/L	>٦,٢ mEq/L
Potassium (newborns)	<٢,٥ mEq/L	>٨,٠ mEq/L
Sodium	<١٢٠ mEq/L	>١٦٠ mEq/L
BUN (except dialysis patients)	٢ mg/ dL	>٨٠ mg/dL
Cerebrospinal Fluid	Low	High
Glucose	<٨٠٪ of blood level	
Protein, total positive bacterial stain, antigen detection, culture or India ink preparation	None	>٤٥ mg/dL
WBC in CSF Presence of malignant cells or blast or any other body fluid	None	>١٠/ cu mm

CHEMISTRY

Test Report Name	Age	Critical Low	Critical High	Units
Ammonia – (Florida units are µmol/L, MCHS&RST units are mcmol/L)	≥ 1 yr	–	≥ 200	mcmol/L
*Ammonia – Arizona (Deviation in units)	≥ 1 yr	–	≥ 500	mcg/dL
Ammonia – (Florida units are µmol/L, MCHS&RST units are mcmol/L)	< 1 yr	–	≥ 100	mcmol/L
*Ammonia – Arizona (Deviation in units)	< 1 yr	–	≥ 150	mcg/dL
Bilirubin Total, Serum	< 1 yr	–	≥ 15.0	mg/dL
Calcium, Total		≤ 6.5	≥ 13.0	mg/dL
Calcium, Ionized, Blood	< 1 yr	≤ 2.0	≥ 6.0	mg/dL
Calcium, Ionized, Blood	≥ 1 yr	≤ 3.0	≥ 6.5	mg/dL
*Calcium, Ionized, Blood - Florida (Deviation due to methodology difference)	< 1yr	≤ 3.0	≥ 5.5	mg/dL
*Calcium, Ionized, Blood - Florida (Deviation due to methodology difference)	≥ 1 yr	≤ 3.0	≥ 6.0	mg/dL
Carbon Monoxide (Carboxyhemoglobin Level)		–	≥ 20	%
Creatinine, Blood/Plasma/Serum	1 day – 4 weeks	–	≥ 1.5	mg/dL
Creatinine, Blood/Plasma/Serum	5 weeks – 23 mos	–	≥ 2.0	mg/dL
Creatinine, Blood/Plasma/Serum	2 yrs – 11 yrs	–	≥ 2.5	mg/dL
Creatinine, Blood/Plasma/Serum	12 yrs – 15 yrs	–	≥ 3.0	mg/dL
Creatinine, Blood/Plasma/Serum	16 yrs – 17 yrs	–	≥ 10.0	mg/dL
Creatine Kinase, Total		–	≥ 10,000	U/L
FT4 (Free Thyroxine)	< 50 yrs	–	≥ 7.8	ng/dL
FT4 (Free Thyroxine)	≥ 50 yrs	–	≥ 6.0	ng/dL
FT4 (Free Thyroxine) – Florida	All ages	-	≥ 7.8	ng/dL
Glucose, Plasma/Serum	< 4 weeks	≤ 40	≥ 400	mg/dL
Glucose, Plasma/Serum	≥ 4 weeks	≤ 50	≥ 400	mg/dL
Magnesium, Serum		≤ 1.0	≥ 9.0	mg/dL
Osmolality		≤ 190	≥ 390	mOsm/Kg
*pH (MCHS and AZ only)		≤ 7.200	≥ 7.600	pH
*pC02, arterial (MCHS and AZ only)		≤ 20.0	≥ 70.0	mmHg
*pO2 (MCHS)		≤ 40.0	–	mmHg
*pO2 (AZ)		≤ 45.0	–	mmHg
Phosphorus		≤ 1.0	–	mg/dL
Potassium		≤ 2.5	≥ 6.0	mmol/L
Sodium		≤ 120	≥ 160	mmol/L

HEMATOLOGY

Test Report Name	Age	Critical Low	Critical High	Units
Activated Partial Thromboplastin Time, Plasma		–	≥ 150	sec
Fibrinogen		≤ 60	–	mg/dL
Hemoglobin	0 – 7 weeks	≤ 6.0	≥ 24.0	g/dL
Hemoglobin	> 7 weeks	≤ 6.0	≥ 20.0	g/dL
INR (International Normalizing Ratio)		–	≥ 5.0	
Leukocytes		–	≥ 100.0	x10(9)/L
Absolute Neutrophil Count		≤ 0.5	–	x10(9)/L
Neutrophils		≤ 0.5	–	x10(9)/L
Platelets, Blood		≤ 40	≥ 1000	x10(9)/L
CSF White Blood Cell Count			≥ 100.0	Cells/mcL

Microbiology
Positive blood culture
Positive Gram stain or culture from any site
Positive culture or isolate for Carynebacterium diphtheriae, Cryptococcus neoformans,Bordetella pertussis, Neisseria gonorrhoeae (only nongenital sites), dimorphic fungi (Histoplasma, Coccidioides, Blastomyces, Paracoccidioides)
Presence of blood parasites (e.g. malaria organisims, Babesia, microfiaria)
Postive antigen detection (e.g. Cryptoccus, group B steptococci, Haemophilus influenzae type B, Neisseria meningitidis, Streptococcus pneumoniae)
Stool culture positive for Salmonella, Shigella, Oampylobacter, Vibrio, or Yersinia
هریک از موارد زیر میبایستی در اسرع وقت توسط کارکنان میکروبشناسی به اطلاع پزشک مربوطه یا کادر پرستاری رسانده شده و سوابق آن (نام بیمار، تشخیص احتمالی، زمان تماس و نام پزشک یا پرستار مورد تماس) نگهداری گردد. ضمنا میبایستی نتایج نهایی آزمایش نیز به پزشک ارسال گردد. **- کشت خون مثبت** **- موارد کشت یا گسترش مستقیم مثبت در مایع مغزی نخاعی**

- وجود کشت یا گسترش مستقیم مثبت در مایعات استریل بدن (مایع نخاع، مایع مفصل، مایع پریکارد، مایع پلورو پریتوئن) - استرپتوکوک پیوژن بدنبال زخم های جراحی - گسترش خون محیطی مثبت از نظر مالاریا - گسترش مثبت نمونه از نظر باسیل اسید فست - گسترش مثبت از نظر باسیلوس انتراسیس - تشخیص پاتوژن های مهم نظیر لژیونلا، بروسلا - موارد مثبت کریپتوکوکوس در آزمون شناسایی آنتی ژن - استافیلوکوک اورئوس مقاوم به ونکومایسین
Urinalysis
Strongly positive test for glucose and ketone
Presence of reducing sugars in infants
Presence of pathological crystals (urate, cysteine, leucine, tyrosine)
Serology
Incompatible cross match
Positive direct and indirect antiglobulin (Coombs') test on cord blood
Titers of significant RBC alloantibodies during pregnancy
Transfusion reaction workup showing incompatible unit of transfused blood
Failure to call within ۷۲ hrs for Rh Ig after possible or known exposure to Rh-positive RBCs
Positive confirmed test for hepatitis, syphilis, acquired immunodeficiency syndrome (AIDS)
Increased blood antibody levels for infectious agents

Therapeutic Drugs	**Blood Levels**
Acetaminophen	>۱۵۰ µg/mL

Carbamazepine	>٢٠ µg/mL
Chloramphenicol	>٥٠ µg/mL (peak)
Digitoxin	>٣٥ ng/mL
Digoxin	>٢,٥ ng/mL
Ethosuximide	>٢٠٠ µg/mL
Gentamicin	>١٢ µg/mL
Imipramine	>٤٠٠ ng/mL
Lidocaine	>٩ µg/mL
Lithium	>٢ mEq/L
Phenytoin	>٦٠ µg/mL
Phenytoin	>٤٠ µg/mL
Primidone	>٢٤ µg/mL
Quinidine	>١٠ µg/mL
Salicylate	>٧٠٠ µg/mL
Theophylline	>٢٥ µg/mL
Tobramycin	>١٢ µg/mL (peak)
In Addition the physician is promptly notified of any of the following:	
Serum glucose, fasting	>١٣٠ mg/dL
Serum glucose, random	>٢٥٠ mg/dL
Serum Cholesterol	>٣٠٠ mg/dL
Serum total protein	>٩,٠ mg/dL
Blood lead	Increased
Urinalysis	**Plus, blood, or protein≥٢+**

Urine colony count/ culture	>٥٠,٠٠٠ colonies/mL of single organism
Respiratory culture	Heavy growth of pathogen
Peripheral blood smear	Atypical Lymphocytes, plasma cells