

BIOCHEMISTRY			
ANALYTE	AGE & GENDER	CRITICAL VALUE	REFERENCES
Albumin		<2 gr/dL	UCI
ALT (SGPT)		>100 IU/L	UCI
AST (SGOT)		>500 IU/L	ASCP, UCI
Bilirubin, direct	Infant <12 months	>1.5 mg/dL	UCI
Bilirubin, Total	(Infant <12 months)	>15 mg/dL	UCI
	(5 days†2 months)	>15 mg/dL	UCI
	(2 days)	>10 mg/dL	UCI
	(1 day)	>6 mg/dL	UCI
	(Adult)	>18 mg/dL	IRAN Reference Lab
	<1 yr	≥ 15 mg/dL	Mayo clinic
		>20 mg/dl	ASCP
BUN		<2 , >80 mg/dL	ASCP
		>12.9 mg/dL	IRAN Reference Lab
		≤ 6.5 , ≥ 13 mg/dL	Mayo Clinic
Calcium, Total		<6 or >13 mg/dL	ASCP,ARUP, Legacy, Mayo Clinic
		<6.6 or >12.9 mg/dL	Rochester Medical Center
Calcium, Ionized	Birth to 1 month	<0.95 mmol/L	UCI Health Pathology
	>1 month to ‡2 months	>1.5 mmol/L	UCI Health Pathology
	Old	<0.87 mmol/L	UCI Health Pathology
CK-MB		≥ 10 ug/L, > 5x up of Normal	ASCP
		>15 ng/ml	IRAN Reference Lab
CK - Total	Infant <12 months	>1200 U/L	UCI
		≥ 10,000 U/L	Mayo Clinic
		>500 U/L	IRAN Reference Lab
		>3 - 5 × Upper of Normal	ASCP
Creatinine		> 5 mg/dL	ASCP
	≥ 16 yrs	≥ 10 mg/dL	Mayo Clinic
	12-15 yrs	≥ 3 mg/dL	Mayo Clinic
	2 yrs†1 yrs	≥ 2.5 mg/dL	Mayo Clinic
Glucose	Infant <12 months	<45 , >250 mg/dL	UCI
	newborn‡-7 days	<41 , >199 mg/dL	Rochester Medical Center
	newborn‡0-1 day	<26 , >199 mg/dL	Rochester Medical Center
Glucose (CSF)	Adults & Pediatrics	≤40 , ≥300 mg/dL	UCI
Iron	(≥6 years)	>499 µg/dL	Legacy
	(0 day -6 years)	>299 µg/dL	Legacy
Lactate		>3.4 mmol/L	Rochester Medical Center
Lactate, CSF		>3 mmol/L	Legacy
Magnesium	Infant <12 months	<1.2 or >3 mg/dL	UCI
		<1.2 or >3.9 mg/dL	IRAN Reference Lab
		≤ 1 or ≥ 9 mg/dL	Mayo Clinic
		<1 or >4.7 mg/dL	ASCP
Phosphorus	Infant <12 months	<3 , >8 mg/dL	UCI
		<1.2 , >7.5 mg/dl	IRAN Reference Lab
		≤ 1 mg/dL	Mayo Clinic
Potassium		<2.8 , >6 mmol/L	IRAN Reference Lab
		≤ 2.5 , ≥ 6 mmol/L	Mayo Clinic
		<2.8 , >6.2 mEq/L	ASCP
	(newborns)	<2.5 , >8 mEq/L	ASCP
Protein total		>45 g/dL	ASCP
Sodium		<125 , >163 mEq/L	IRAN Reference Lab
	Infant <12 months	<125 , >150 mEq/L	UCI
	(Adults& Pediatrics)	≤120 , ≥160 mEq/L	UCI
Troponin I		>0.1 ng/mL	IRAN Reference Lab
Urea		>214 mg/dL	IRAN Reference Lab
Uric acid	(Infant <12 months)	>12 mg/dL	UCI
COAGULATION			
ANALYTE	AGE & GENDER	CRITICAL VALUE	REFERENCES
D-dimer		>5000 ng/mL	UCI, Mayo Clinic
INR		≥ 5	Mayo Clinic, ASCP, UCI
PT (Prothrombin Time)		≥ 50 sec	Mayo Clinic, ASCP
PTT		≥ 100 sec	ASCP, UCI

ENDOCRINOLOGY			
ANALYTE	AGE & GENDER	CRITICAL VALUE	REFERENCES
Anti-Tg		< 0.5 ng/dL , > 2.5 ng/dL	ASCP
Anti-TPO		< 4 µg/dL , > 12 µg/dL	ASCP
Cortisol (morning)		< 1.5 pg/mL , > 4.5 pg/mL	ASCP
FSH		< 60 ng/dL , > 180 ng/dL	ASCP
Growth Hormone		> 35 IU/mL	ASCP
LH		>40 IU/mL	CLSI
Progesterone (Female)		< 200 ng/dL , > 1000 ng/dL	IRAN Reference Lab
Prolactin		< 20 ng/dL , > 80 ng/dL	IRAN Reference Lab
PTH		< 0.1 ng/mL , > 25 ng/mL	Clinical Endocrinology
T3Free		< 1 IU/L , > 25 IU/L	ASCP
T3Free		> 45 pmol/L	eJIFCC
T3Total		< 1 IU/L , > 30 IU/L	ASCP
T4Free		> 35 ng/L	eJIFCC
T4Free		< 3 µg/dL , > 25 µg/dL	CLSI
T4Total		> 100 ng/mL	ASCP
TSH		< 0.1 mIU/L , > 10 mIU/L	ASCP
Testosterone (Female)		< 0.1 ng/mL , > 10 ng/mL	Clinical Endocrinology
Testosterone (Male)		< 10 pg/mL , > 65 pg/mL	ASCP
HEMATOLOGY			
ANALYTE	AGE & GENDER	CRITICAL VALUE	REFERENCES
ESR(Ophthalmology only)	(0 -14 Yrs)	Male >10 Female >10 mm/hr	UCI
	(Adults& Pediatrics)	Male >15 Female >20 mm/hr	UCI
	Infant <12 months	<100 mg/dL	UCI
Fibrinogen		<100 , >800 mg/dl	IRAN Reference Lab
		<100 , >700 mg/ dL	ASCP
Hematocrit	Infant <12 months	<21% , >65%	IRAN Reference Lab
		<21% , >60%	IRAN Reference Lab
		<20% , >60%	ASCP
Hemoglobin	Infant <12 months	<7 , >22 g/dL	UCI
		≤ 7 , >20 g/dl	IRAN Reference Lab
	> 7 weeks	≤ 6 , ≥ 20 g/dL	Mayo Clinic
	0-7 weeks	≤ 6 , ≥ 20 g/dL	Mayo Clinic
Platelet	(Adults& Pediatrics)	≤20 , >1000 x 1000/mm3	UCI
	Infant <12 months	≤50 , >1000 x 1000/mm3	UCI
		≤ 30 , >950 x 1000/µL	IRAN Reference Lab
RBC		<2.5 , >6.5 mill/uL	UCI
WBC (Blood)	(Adults& Pediatrics)	≤1000 , ≥50000 /mm3	UCI
	(Infant <12 months)	≤2000 , ≥35000 /mm3	UCI
		≤ 2000 , ≥25000 /µLL	IRAN Reference Lab
		<2000 , >30000 /Cumm	ASCP
		<2500 , >30000 /Cumm	Renown Lab
		<2000 , >40000 /Cumm	ARUP
WBC (CSF)		>10 Cell/µL	IRAN Reference Lab
MICROBIOLOGY			
SAMPLES	ORGANISMS	CRITICAL VALUE	REFERENCES
Blood	Any Bacteremia	Any Positive	CLSI
CSF	Neisseria meningitidis	Any Positive	ASCP, CLS
	Streptococcus agalactiae	Any Positive	ASCP, CLS
	Listeria monocytogenes	Any Positive	ASCP, CLS
Sputum	Streptococcus pneumoniae	≥ 10 ³ CFU/ml	CLSI
	Haemophilus influenzae	≥ 10 ³ CFU/ml	ASCP
	Moraxella catarrhalis	≥ 10 ² CFU/ml	CLSI
	Staphylococcus aureus	≥ 10 ² CFU/ml	ASCP
Urine	Escherichia coli	≥ 10 ⁵ CFU/ml	ASCP,CLSI
	Klebsiella spp.	≥ 10 ⁵ CFU/ml	ASCP
	Enterococcus spp.	≥ 10 ⁴ CFU/ml	CLSI
	Proteus spp.	≥ 10 ⁵ CFU/ml	CLSI,ASCP
	Pseudomonas aeruginosa	≥ 10 ⁵ CFU/ml	Clinical Microbiology Reviews
Wound	Staphylococcus aureus	≥ 10 ⁵ CFU/g	ASCP, CLSI
	Pseudomonas aeruginosa	≥ 10 ⁵ CFU/g	Clinical Microbiology Reviews
	Enterobacteriaceae	≥ 10 ⁵ CFU/g	CLSI

