



CLINICAL LABORATORIES

**Pocket Reference Guide
2023-2024**

Pathologists/Directors-547-3700

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REFERENCE RANGES—continued

RBC x 10³/µL M 3.7-5.9 F 3.7-5.1
Hgb. (g/dL) M 11.5-18.0 F 11.5-15.5
M 35-50% F 34-46%
Hct.
MCV M/F 81-99 fL
MCH M/F 27-33.5 pg
MCHC M/F 31.5-35.5 g/dL
RDW-SD M/F 37.3-49.0 fL
Platelet count 140-425 x 10³/µL
IPF 1.2-8.6% 3.6-20.0 x 10³/µL
Retic. count 0.6-2.3%
RET-He 30.8-36.6 pg
IRF 2.3-15.9%
Sed Rate: M ≤ 15 mm/hr F ≤ 15 mm/hr
< 50 y.o. M ≤ 30 mm/hr F ≤ 30 mm/hr
≥ 50 y.o. 190-458 mg/dL
Fibrinogen 215-499 ng/mL
D-dimer
Therapeutic Range:
PT 9.9-12.6 sec
INR 0.9-1.1
routine anticoagulation 2.0-3.0
mechanical valves 2.5-3.5
APTT w/o heparin therapy 27.1-39.1 sec
heparin therapy (0.3-0.7 U/mL) 64.4-103.1 sec.

Urine

pH 5-8
Specific Gravity 1.003-1.024
All of the following are negative: protein,
glucose, ketones, esterase, bilirubin, nitrite, blood.
Urobilinogen ≤ 1.0 E.U./dL
Microscopic:
RBC <2/hpf
WBC <6/hpf
Casts: Hyaline 0-2/hpf
Other None
Bacteria None
Epithelial cells Squamous < 6/hpf
Transitional < 3/hpf
Renal tubular None
Crystals None
eGFR ≥ 60 ml/min/1.73m²

REFERENCE RANGES—continued

Glucose: Fasting 70-100 mg/dL
Random 70-139 mg/dL
HbA1c non-d? 4.0-5.6%
HCG/Total Beta M < 3. Nonpregnant F < 6
HDL-C ≥ 60 mg/dL
IgA 66-433 mg/dL
IgG 653-1741 mg/dL
Iron 45-281 mg/dL
Iron Sat 50-212 µg/dL
Lactic Acid M 20-50% F 15-50%
LDL-C Ven 0.5-2.2 mmol/L; Art 0.5-1.6 mmol/L
LDH (LD) 50-100 mg/dL Optimal; 50-130 Near Optimal
LH: 140-271 U/L
F Peak 9-76 mIU/mL
Luteal < 17 mIU/mL
Post Meno 16-54 mIU/mL
Pregnant < 1.0 mIU/mL
11-82 U/L
Lipase 1.9-2.7 mg/dL
Magnesium 0.8-1.2 mmol/L
Magnesium (OB only) 5.0-8.0 mg/dL
O₂ Content Art 15-23 vol%; Ven 10-18%
O₂ Sat Art 95-98%; Ven 60-85%
Osmolality 270-300 mOsm/kg
Phosphorus 2.5-5.0 mg/dL
Potassium Serum 3.5-5.1 mmol/L Plasma 3.4-4.5 mmol/L
Prealbumin 17-34 mg/dL
Prolactin M < 13 ng/mL Non-preg F < 27 ng/mL
PSA, Total 0.1-4.0 ng/mL
PTH-Intact 12-88 pg/mL
Sodium M 136-145 mmol/L F 0.1-0.8 ng/dL
Testosterone M 1.8-7.8 ng/dL F 0.1-0.8 ng/dL
TIBC 250-450 µg/dL
Tot. Bil. 0.3-1.0 mg/dL
Tot. Protein 6.0-8.3 g/dL
Tot. T₃ 79-149 ng/dL
Transferrin 203-362 mg/dL
Triglyceride 55-150 mg/dL
Tropoin, hs M 3-20 pg/mL F 3-15 pg/mL
TSH 0.41-4.50 µU/mL
Uric Acid M 4.4-7.6 mg/dL F 2.3-6.6 mg/dL
Vitamin B₁₂ 180-914 pg/mL
25-OH Vitamin D 31-100 ng/mL
Hematology M/F 3.7-10.6
WBC x 10³/µL

ADULT REFERENCE RANGES

Chemistry
A/G Ratio 1.1-2.1
Albumin 3.5-5.7 g/dL
Alk. Phos. 34-104 U/L
ALT (SGPT) 7-72 U/L
Ammonia < 31 days 60-100 mmol/L
31d-17yr 20-50 mmol/L
≥ 17yr 18-72 mmol/L
Amylase 29-103 U/L
Anion Gap 6-14 mmol/L
AST (SGOT) 13-39 U/L
β-OH Butyrate 0.02-0.27 mmol/L
BNP 6-100 pg/mL
BUN 7-25 mg/dL
BUN/Creat. 10-20
C3 87-200 mg/dL
C4 19-52 mg/dL
CA 125 0-35 U/mL
Calcium, Total 8.6-10.3 mg/dL
Calcium, Ionized 1.05-1.35 mmol/L
CEA 0-3 ng/mL
Chloride 98-110 mmol/L
Cholesterol 115-200 mg/dL
CK (CPK) M 122-218 U/L F 67-95 U/L
Cortisol AM 6-27 µg/dL PM 3-16 µg/dL
Creatinine M 0.7-1.3 mg/dL F 0.6-1.2 mg/dL
CRP: < 1.0 mg/L
Cardiac Avg. Risk 1.0-3.0 mg/L
High Risk 3.1-10.0 mg/L
Inflam 0.1-1.0 mg/dL
Direct Bil. 0.0-2.0 mg/dL
Ferritin M 16-243 ng/mL F 10-158 ng/mL
Folate, Serum 5.9-24.8 ng/mL
Free T₄ 0.6-1.3 ng/dL
FSH: M < 18 mIU/mL
F Follicular < 10 mIU/mL
Ovulatory 3-33 mIU/mL
Luteal < 9 mIU/mL
Post Meno 23-116 mIU/mL
Pregnant < 1.0 mIU/mL
GGT 9-64 U/L
reference ranges subject to change due to
new instrumentation/methods/data review

Key Phone Numbers

Customer Service	3700
Special Requests	
Specimen Requirements	
Point of Care Testing	6728
Anatomic Pathology	3701
Cytology	3734
STAT Phlebotomy	Page # 1524
Technical Support:	
CLP/Phlebotomy	3975
Supervisor, Core Lab Services	3964
Manager, Transfusion/Tissue Services	6759
Supervisor, Anatomic Pathology (Cytology/Histology)	6357
Blood Bank	3721
Outpatient Lab	3735
Microbiology	6716
Lab Manager, North	TBD
Lab Manager, South	607-431-5241

#2159
 Rev 9/04;10/04;5/05;4/06;8/06;5/07;9/09;2/10;3/10;7/10;6/11;
 6/12;11/12;5/13;7/13;11/13;12/13;2/14;3/14;6/14;7/16;8/17;
 8/19;4/21;5/21;1/22;7/23 (f:\lab\pub)

CRITICAL VALUES

	BELOW	ABOVE
Chemistry		
Bilirubin, Neonate	—	15.0 mg/dL
Calcium, total	6.0	13.0 mg/dL
Calcium, ionized	0.75	1.63 mmol/L
Carbon dioxide	10	45 mmol/L
Glucose, adult	40	450 mg/dL
Glucose, neonate	45	450 mg/dL
Lactic acid	—	3.9 mmol/L
Protein, CSF	—	100 mg/dL
Magnesium	1.0	4.0 mg/dL
Magnesium (OB only)	1.0	8.0 mg/dL
Osmolality (serum)	265	320 mOsmo/kg
Phosphorus	1.0	— mg/dL
Potassium	2.8	6.0 mmol/L
Sodium	120	155 mmol/L
Troponin, hs	—	100 pg/mL
Blood Gases/STAT Lab		
pH	7.25	7.60 units
pCO ₂	23	60 mmHg
pO ₂	45	— mmHg
Carboxyhemoglobin		30%
Hematocrit	21	60 %
Hemoglobin	7.0	— mg/dL
pH (cord blood)	7.1	— units
Hematology/Coagulation/Urinalysis		
Hematocrit > 1 month	21.0	60.0%
Newborn—1 month	35	60%
WBC Newborn—1 month	2.0	30.0x10 ³ /µL
> 1 month	1.0	25.0x10 ³ /µL
Hemoglobin	7.0	g/dL
Platelet count	20	1000x10 ⁹ /µL
INR		4.4 INR
APTT – on heparin		≥ 122.4 sec
APTT – w/o heparin		≥ 69.2 sec
Cerebrospinal Fluid – WBC's		
0-1 yr		>23 cells/µL
1-17 yr		> 8 cells/µL
> 18 yr		> 10 cells/µL

CRITICAL VALUES—continued

Pertoneal Dialysate – WBC's	100/µL
Urine Glucose – OB/Peds only	≥122.4mg/dL
Urine Ketone – OB/Peds only	≥69.2 mg/dL
Blood Bank	
Suspected acute or delayed hemolysis due to transfusion or HDN.	
Positive Culture or gram stain on already issued random donor platelet concentrates.	
Microbiology	
Gram Stains: Positive Gram stains from normally sterile body fluids or normally sterile tissues.	
Fungal Stains: From sterile body fluids or tissues.	
Cultures: Positive cultures from body fluids that are normally sterile. Subcutaneous or systemic fungi.	
Any organisms with implications for isolation.	
Toxicology	
Acetaminophen:	ABOVE
Alcohol	40 µg/mL
Carbamazepine	300 mg/dL
Digoxin	15.0 µg/mL
Gentamicin	2.4 ng/mL
Lithium	2.0 µg/mL (trough)
Phenobarbital	18.0 µg/mL (random, peak)
Phenytoin (total)	1.5 mmol/L
Salicylate	40.0 µg/mL
Tobramycin	25.0 µg/mL
2.0 µg/mL	30.0 mg/dL (trough)
Valproic Acid	Tobramycin (random, peak)
Vancomycin	18.0 µg/mL (trough, peak)
	125 µg/mL (trough)
	20.0 µg/mL (peak)
	70.0 µg/mL (random)
	30.0mg/ml

LABORATORY LABELING POLICY—The following applies to all specimens sent to the laboratory.

Label all laboratory specimens completely and correctly.

- **All specimens** submitted to the lab for testing must have the following:
 1. Ordered in EPIC
 2. Label printed
 3. Collection date/time and collector information completed in EPIC.
 4. Beaker label placed on specimen container

Any specimen not labeled as required will be rejected.