

ADULT REFERENCE RANGES

Chemistry		
A/G Ratio	1.1-2.1	
Albumin	3.5–5.0 g/dl	
Alk. Phos.	< 10 yr	200-270 U/L
	10-18 yr	85-225 U/L
	> 18 Yr	38-125 U/L
ALT (SGPT)	M 21-72 U/L	F 9-52 U/L
Amylase	30-110 U/L	
Anion Gap	6-14 mmol/L	
AST (SGOT)	M 17-59 U/L	F 14-36 U/L
β-OH Butyrate	< 0.5 mmol/L	
BNP < 75 y.o.	< 125 pg/ml	
> 75 y.o.	< 450 pg/ml	
BUN	M 9-20 mg/dl	F 7-17 mg/dl
BUN/Creat.	10-20	
C3	90–207 mg/dl	
C4	17.4–52.2 mg/dl	
CA 125	< 35 U/ml	
Calcium, Total	8.4-10.2 mg/dl	
Calcium, Ionized	4.2–5.4 mg/dl	
CEA	<5 ng/ml	
Chloride	98-110 mmol/L	
Cholesterol	115-200 mg/dl	
CK (CPK)	M 30-225 U/L	F 30-175 U/L
CKMB	≤ 7 ng/ml	
CKMB/CK Index	< 5	
CO ₂	22-34 mmol/L	
Cortisol	AM 6-27 µg/dl	PM 3-16 µg/dl
Creatinine	M 0.5-1.3 mg/dl	F 0.7-1.0 mg/dl
CRP		
Cardiac	< 1.0 mg/L	
Avg. Risk	1.0-3.0 mg/L	
High Risk	> 3.0 mg/L	
Inflam	< 1.0 mg/dl	
Direct Bili.	≤ 0.4 mg/dl	
Ferritin	M 20–400 ng/ml	F 10-220 ng/ml
Folate, Serum	3.5–15 ng/ml	
Folate, RBC	> 280 ng/ml	
Free T ₄	0.6–1.6 ng/dl	
FSH	M < 18 mIU/ml	
	F Follicular < 10 mIU/ml	
	Peak 3-33 mIU/ml	
	Luteal < 9 mIU/ml	

REFERENCE RANGES—continued

FSH (continued)	Post Meno 23-116 mIU/ml	
	Pregnant < 1.0 mIU/ml	
GGT	8-78 U/L	
Glucose: Fasting	70-100 mg/dl	
Random	70-139 mg/dl	
HbA1c	4.0–5.6%	
HCG/BHCG	M < 3, Nonpregnant F < 6	
HDL-C	40–60 mg/dl	
IgA	87–474 mg/dl	
IgG	681–1648 mg/dl	
IgM	48–312 mg/dl	
Iron	M 50-150 µg/dl	F 40-140 µg/dl
Iron Sat	M 20-50%	F 15-50%
Lactic Acid	Ven 0.5-2.2 mmol/L; Art 0.5-1.6 mmol/L	
LDL-C	50-100 mg/dl Optimal; 50-130 Near Optimal	
LDH (LD)	100–190 U/L	
LH	M < 9 mIU/ml	
	F Peak 9-76 mIU/ml	
	Luteal < 17 mIU/ml	
	Post Meno 16-54 mIU/ml	
	Pregnant < 1.0 mIU/ml	
Lipase	50-290 U/L	
Magnesium	1.5-2.5 mg/dl	
O ₂ Content	Art 15-23 vol%; Ven 10-18%	
O ₂ Sat	Art 95-98%; Ven 60-85%	
Osmolality	270–300 mOsm/kg	
Phosphorus	2.5–4.9 mg/dl	
Potassium	3.4-5.0 mmol/L	
Prealbumin	18–40 mg/dl	
Prolactin	M < 18 ng/ml	F < 30 ng/ml
PSA	≤ 4 ng/ml	
PTH–Intact	14–72 pg/ml	
Sodium	135–145 mmol/L	
Testosterone	M 280-880 ng/dl	F < 80 ng/dl
TIBC	250–450 µg/dl	
Tot. Bili.	< 1.0 mg/dl	
Tot. Protein	6.3–8.2 g/dl	
Tot. T ₃	80-180 ng/dl	
Transferrin	200-400 mg/dl	
Triglyceride	55-150 mg/dl	
Troponin	< 0.05 ng/ml	
TSH	0.34–3.00 µIU/ml	
Uric Acid	M 3.5-8.5 mg/dl	F 2.5-7.5 mg/dl
Vitamin B ₁₂	228-1100 pg/ml	
25-OH Vitamin D	31-100 ng/ml	

REFERENCE RANGES—continued

Hematology		
WBC x 10 ³ /µl	M/F 3.7-10.6	
RBC x 10 ⁶ /µl	M 3.7-5.9	F 3.7-5.1
Hgb. (g/dl)	M 11.5-18.0	F 11.5-15.5
Hct.	M 35-50%	F 34-46%
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 10 ³ /µl	
Retic. count	0.6-2.3%	
Sed Rate:		
< 50 y.o.	M ≤ 15 mm/hr	F ≤ 15 mm/hr
≥ 50 y.o.	M ≤ 30 mm/hr	F ≤ 30 mm/hr
Fibrinogen	190-458 mg/dl	
D-dimer	215-499 ng/ml	
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	25.1–36.7 sec	
heparin therapy (0.3-0.7 U/ml)	49.8–79.7 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 < 4/hpf	
	Transitional < 3/hpf	
	Renal tubular None	
	Crystals None	



Bassett Healthcare Network
Bassett Medical Center

CLINICAL LABORATORIES

Pocket Reference Guide 2016-2017

Pathologists/Directors—547-3700

Timothy D. Chapman, M.D.
Samantha K. Davenport, M.D.
John M. Fisk, M.D.
Simha R. Sastry, M.D.
Daniel M. Schrieber, M.D.
Valerie J. Bush, Ph.D.
Morgan Sullivan, P.A.
Renee Renouf, P.A.

Administrative Laboratory Director Tim Williammee 547-6724

Reference ranges subject to change due to
new instrumentation. - 5 -

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:	
Manager, Support Services, Natalie Sheldon ..	3801
Manager, Core Lab Services, Carol Smola	3964
Manager, Transfusion/Tissue Services	
Becky Frederick	6759
Manager, Anatomic Pathology	
(Cytology/Histology), Vicki Spoon.....	6357
Blood Bank	
Ethel Mills	3721
Phlebotomy	3735/3718
Microbiology (Cheryl Burtch)	6716

#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;6/13;7/13;11/13;12/13;2/14;3/14;6/14;7/16 (f:\lab\pub)

CRITICAL VALUES

Chemistry	BELOW	ABOVE
Bilirubin, Neonate	—	15.0 mg/dl
Calcium, total	6.0	13.0 mg/dl
Calcium, ionized	3.0	6.5 mg/dl
Carbon dioxide	10	45 mmol/L
Glucose, adult	40	450 mg/dl
Glucose, neonate	45	— mg/dl
Lactic acid	—	3.9 mmol/L
Protein, CSF	—	100 mg/dl
Magnesium	1.0	4.0 mg/dl
Osmolality (serum)	265	320 mOsm/kg
Phosphorus	1.0	— mg/dl
Potassium	2.8	6.0 mmol/L
Sodium	120	155 mmol/L
Troponin	—	0.6 ng/ml
Blood Gases/STAT Lab		
pH	7.25	7.60 units
pCO ₂	23	60 mmHg
pO ₂	45	— mmHg
Carboxyhemoglobin		30% COHgb
Hematocrit	21	60 %
Hemoglobin	7.0	— mg/dl
pH (cord blood)	7.10	— units
Hematology/Coagulation/Urinalysis		
Hematocrit > 1 month	21.0	60.0%
Newborn—1 month	35	60%
WBC Newborn—1month	2.0	30.0x10 ³ /μl
> 1 month	1.0	25.0x10 ³ /μl
Hemoglobin	7.0	g/dl
Platelet count	20	1000x10 ⁶ /μl
INR		4.4 INR
APTT – on heparin		≥ 94.8 sec
APTT – w/o heparin		≥ 38.0 sec
Cerebrospinal Fluid – WBC's		
0-1 yr		>23 cells/μl
1-17 yr		> 8 cells/μl
> 18 yr		> 10 cells/μl
Peritoneal or Dialysate – WBC's		100/μl
Urine Glucose – OB/Peds only		>100mg/dl
Urine Ketone – OB/Peds only		>40 mg/dl

CRITICAL VALUES—continued

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.	
AFB Stains: Any positive AFB stain from any site.	
Fungal Stains: From sterile body fluids (except urine) or tissues.	
Cultures:	
Positive cultures from body fluids that are normally sterile. Subcutaneous or systemic fungi.	
Any mycobacterium isolated.	
Any organisms with implications for isolation.	
Toxicology	ABOVE
Acetaminophen:	40 μg/ml
Alcohol	300 mg/dl
Carbamazepine	15.0 μg/ml
Digoxin	2.4 ng/ml
Gentamicin	(trough) 2.0 μg/ml
	(random, peak) 18.0 μg/ml
Lithium	1.5 mmol/L
Phenobarbital	40.0 μg/ml
Phenytoin (total)	25.0 μg/ml
Salicylate	30.0 mg/dl
Theophylline	20.0 μg/ml
Tobramycin	(trough) 2.0 μg/ml
	(random, peak) 18.0 μg/ml
Valproic Acid	125 μg/ml
Vancomycin	(trough) 20.0 μg/ml
	(random, peak) 70.0 μg/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**EXCEPTION:** Blood Bank. Blood Bank specimens must be hand labeled from the patient's wristband with above information; preprinted labels /stickers must be placed in bag with specimen (not on specimen),

Any specimen not labeled as required will be rejected.