

Laboratory Reference Ranges
Chemistry

Test	Reference Range		
	Age	Gender	Range
HA1c	0d+	M,F	4.0-5.6 %
Serum Osmo	0d+	M,F	275-295 mOsm/kg
Urine Osmo	0d	M,F	≤750 mOsm/kg
	1y+	M,F	150-1150 mOsm/kg
Acetaminophen	0d+	M,F	Therapeutic <50 µg/mL
Albumin	0d	M,F	2.8-4.2 g/dL
	2m+	M,F	3.5-5.7 g/dL
Albumin/Globulin Ratio	0d+	M,F	1.0-3.0
ALP	0d	M,F	150-420 U/L
	1y	F	60-321 U/L
		M	110-302 U/L
	5y	F	118-360 U/L
		M	110-341 U/L
	10y	M,F	103-373 U/L
	12y	M,F	83-382 U/L
	14y	M,F	67-372 U/L
17y+	M,F	34-104 U/L	
ALT	0d+	M,F	7-52 U/L
Ammonia	0d+	M,F	16-53 µmol/L
Amylase	0d+	M,F	29-103 U/L
Anion Gap	0d+	M,F	2-16 mmol/L
AST	0d+	M,F	13-39 U/L
bHCG	0d+	M,F	<5.0 mIU/mL (Negative) >25.0 mIU/mL (Positive)
BNP	0d+	M,F	≤100 pg/mL
BUN	0d	M,F	2-19 mg/dL
	10d+	M,F	6-24 mg/dL
Calcium	0d	M,F	7.6-10.4 mg/dL
	10d+	M,F	8.6-10.3 mg/dL
Carbamezapine	0d+	M,F	4.0-12.0 µg/mL
CEA	0d+	M,F	0.1-5.0 ng/mL
Cholesterol	0d	F	83-211 mg/dL
		M	82-212 mg/dL
	5y	F	96-211 mg/dL
		M	98-210 mg/dL
	10y	F	95-237 mg/dL
		M	66-190 mg/dL
18y+	M,F	<200 mg/dL	
CK	0d+	M,F	30-223 U/L

Reviewed by:
 Elizabeth Plocharczyk, MD
FEB 12 2023


Test	Reference Range		
	Age	Gender	Range
Chloride	0d	M,F	97-108 mmol/L
	6m+	M,F	101-111 mmol/L
Chloride, WB	0d+	M,F	98-107 mmol/L
CO2	0d	M,F	23-33 mmol/L
	1y+	M,F	22-32 mmol/L
Cortisol	0d+	M,F	AM 8.7-22.4 µg/dL
			PM <10.0 µg/dL
Creatinine	0d	M,F	0.3-1.0 mg/dL
	10d+	F	0.5-1.0 mg/dL
		M	0.7-1.2 mg/dL
CRP	0d+	M,F	≤8.0 mg/L
CRP HS	0d+	M,F	<2.00 mg/L
CSF Glu	0d	M,F	68-80 mg/dL
	12y+	M,F	40-70 mg/dL
CSF Pro	0d+	M,F	15-45 mg/dL
Direct Bili	0d	M,F	0.1-0.9 mg/dL
	8d+	M,F	0.0-0.2 mg/dL
Digoxin	0d+	M,F	0.8-2.0 ng/mL
eGFR	18y+	M,F	>60 mL/min/1.73m*2
Ethanol	0d+	M,F	<13 mg/dL
Ferritin	0d+	M	24.0-336.0 ng/mL
		F	11.0-307.0 ng/mL
Folate	0d+	M,F	≥5.9 ng/mL
FSH	0d+	M	1.3-19.3 mIU/mL
	Mid-Follicular Phase	F	3.9-8.8 mIU/mL
	Mid-Cycle Peak	F	4.5-22.5 mIU/mL
	Mid-Luteal Phase	F	1.8-5.1 mIU/mL
	Post Menopausal	F	16.7-113.6 mIU/mL
FT3	0d+	M,F	2.5-3.9 pg/mL
FT4	0d	M,F	0.76-1.80 ng/dL
	1m	M,F	0.68-1.26 ng/dL
	9y	M,F	0.75-1.13 ng/dL
	11y	M,F	0.65-1.05 ng/dL
	15y	M,F	0.68-1.17 ng/dL
	18y+	M,F	0.61-1.12 ng/dL
Gentamicin	0d+	M,F	0.0-2.0 µg/mL Trough
			4.0-8.0 µg/mL Peak
GGT	0d+	M,F	9-64 U/L
Globulin	0d+	M,F	2.0-4.0 g/dL

Test	Reference Range		
	Age	Gender	Range
Glucose	0d	M,F	50-120 mg/dL
	7d+	M,F	70-100 mg/dL
HDL	0d	M,F	>45 mg/dL
	18y+	F	≥50.0 mg/dL
		M	≥40.0 mg/dL
Indirect Bili	0d+	M,F	0.3-1.0 mg/dL
Insulin	0d+	M,F	2.0-16.0 μIU/mL
Iron	0d+	M,F	50-212 ug/dL
Iron Saturation	0d+	M,F	15-55%
Lactic Acid	0d+	M,F	0.5-2.0 mmol/L
LDH	0d	M,F	290-775 U/L
	4d	M,F	545-2000 U/L
	11d	M,F	180-430 U/L
	1y	M	140-304 U/L
		F	142-297 U/L
	5y	M	155-290 U/L
		F	142-261 U/L
	10y	M	140-304 U/L
		F	122-234 U/L
	18y+	M,F	140-271 U/L
LDL	0d+	M,F	<100 mg/dL
LH	0d+	M	1.2-8.6 mIU/mL
	Mid-Follicular Phase	F	2.1-10.9 mIU/mL
	Mid-Cycle Peak	F	19.2-103.0 mIU/mL
	Mid-Luteal Phase	F	1.2-12.9 mIU/mL
	Post Menopausal	F	10.9-58.6 mIU/mL
Lipase	0d+	M,F	11-82 U/L
Lithium	0d+	M,F	0.6-1.2 mmol/L
Magnesium	0d+	M,F	1.9-2.7 mg/dL
Phenobarbital	0d+	M,F	17.0-34.0 μg/mL
Phenytoin	0d+	M,F	10.0-20.0 μg/mL
Phosphorous	0d	M,F	4.0-7.0 mg/dL
	12y+	M,F	2.5-5.0 mg/dL
Potassium	0d	M,F	3.7-5.9 mmol/L
	10d+	M,F	3.5-5.0 mmol/L
Potassium, WB	0d+	M,F	3.4-4.5 mmol/L
Prealbumin	0d+	M,F	18-38 mg/dL
Procalcitonin	0d+	M,F	<0.07 ng/mL

Test	Reference Range		
	Age	Gender	Range
Progesterone	0d+	M	0.1-2.1 ng/mL
	Mid-Follicular Phase	F	0.3-1.5 ng/mL
	Mid-Luteal Phase	F	5.2-18.6 ng/mL
	Post Menopausal	F	<0.8 ng/mL
	Pregnant Trimester1	F	4.7-50.7 ng/mL
	Pregnant Trimester2	F	19.4-45.3 ng/mL
Prolactin	0d+	M	2.6-13.1 ng/mL
	Premenopausal or <50y	F	3.3-26.7 ng/mL
	Postmenopausal or ≥50y	F	2.7-19.6 ng/mL
PSA	0d+	M,F	0.000-4.000 ng/mL
PTH	0d+	M,F	12.0-88.0 pg/mL
RF	0d+	M,F	<15.0 IU/mL
Rubella	0d+	M,F	≥15 IU/mL: Immune
Salicylate	0d+	M,F	<30.0 mg/dL
Sensitive Estradiol (Non-Pregnant)*	Pediatric	M,F	≤38.2 pg/mL
	Pre-Puberty	M	≤15.0 pg/mL
	Puberty	M	19.5-34.8 pg/mL
	Adult	M	≤31.5 pg/mL
	Early Follicular	F*	22.4-115.0 pg/mL
	Mid Follicular	F*	25.0-115.0 pg/mL
	Ovulatory Peak	F*	32.1-517.0 pg/mL
	Mid Luteal	F*	36.5-246.0 pg/mL
	Pre-Puberty	F*	≤16.0 pg/mL
	Puberty	F*	36.5-196.0 pg/mL
	Post Menopausal	F*	≤25.1 pg/mL
	Sodium	0d	M,F
1y+		M,F	135-145 mmol/L
Sodium, WB	0d+	M,F	136-145 mmol/L

Test	Reference Range		
	Age	Gender	Range
Testosterone	0d	M	75-400 ng/dL
		F	20-80 ng/dL
	5m	M,F	≤20 ng/dL
	10y	M	≤130 ng/dL
		F	≤44 ng/dL
	12y	M	≤800 ng/dL
		F	≤75 ng/dL
	14y	M	≤1200 ng/dL
	15y	M	100-1200 ng/dL
	17y	M	300-1200 ng/dL
F		20-75 ng/dL	
19y+	M	240-950 ng/dL	
	F	8-60 ng/dL	
TgAb	0d+	M,F	<4.0 IU/mL
TIBC	0d+	M,F	250-450 µg/dL
Total Bili, Cord	0d+	M,F	≤3.0 mg/dL
Total Bili	0d	M,F	<10.0 mg/dL
	2d	M,F	<12.0 mg/dL
	4d	M,F	<10.0 mg/dL
	15d+	M,F	0.2-1.0 mg/dL
Total Protein	0d+	M,F	6.4-8.9 g/dL
Total T3	0d+	M,F	87-178 ng/dL
Total T4	0d+	M,F	6.1-12.2 µg/dL
TPO	0d+	M,F	<9.0 IU/mL
Transferrin	0d+	M,F	203-362 mg/dL
Triglycerides	0y	M,F	32-99 mg/dL
	6y	M,F	35-114 mg/dL
	11y	M,F	27-134 mg/dL
	19y+	M,F	<150 mg/dL
Troponin HS	0d+	M	<20 pg/mL
		F	<15 pg/mL
Troponin Delta	0d+	M,F	Negative
TSH	0d	M,F	1.36-8.80 µIU/mL
	1y	M,F	0.85-6.50µIU/mL
	3y+	M,F	0.45-5.33 µIU/mL
Uric Acid	0d+	F	2.3-6.6 mg/dL
		M	4.4-7.6 mg/dL
Valproic Acid	0d+	M,F	50.0-100.0 µg/mL
Vancomycin	0d+	M,F	10.0-20.0 µg/mL
Vitamin B12	0d+	M,F	180-914 pg/mL
Vitamin D	0d+	M,F	20-50 ng/mL
Urine Chloride	0d+	M,F	≤290 mmol/L
Urine Chloride 24hr	0d+	M,F	110-250 mmol/24h

Test	Reference Range		
	Age	Gender	Range
Urine Creat	0d+	F	20.0-320.0 mg/dL
		M	20.0-370.0 mg/dL
Urine Creat 24hr	0d+	M,F	600-1800 mg/24h
Creat Clearance	0d+	F	88-128 mL/min
		M	97-137 mL/min
Urine Malb	0d+	M,F	<7 mg/L
Urine Malb 24hr	0d+	M,F	0.0-30.0 mg/24h
Urine Malb/Creat	0d+	M,F	<31.0 mg/g
Urine Potassium	0d+	M,F	10-160 mmol/L
Urine Potassium 24	0d+	M,F	25-125 mmol/24h
Urine Protein	0d+	M,F	≤25 mg/dL
Urine Protein 24hr	0d+	M,F	0-165 mg/24h
Urine Prot/Creat	0d+	M,F	≤0.2 mg/mg
Urine Sodium	0d+	M,F	20-272 mmol/L
Urine Sodium 24hr	0d+	M,F	40-220 mmol/24h
Urine Urea Nitrogen	0d+	M,F	140-1500 mg/dL
Ur Urea Clearance	0d+	M,F	59-99 mL/min
Amphetamines	0d+	M,F	None Detected
Barbiturates	0d+	M,F	None Detected
Benzodiazepine	0d+	M,F	None Detected
Cocaine	0d+	M,F	None Detected
Opiates	0d+	M,F	None Detected
Phencyclidine	0d+	M,F	None Detected
Cannabinoids	0d+	M,F	None Detected
Buprenorphine	0d+	M,F	None Detected
Fentanyl	0d+	M,F	None Detected
Hydrocodone	0d+	M,F	None Detected
Methadone	0d+	M,F	None Detected
Oxycodone	0d+	M,F	None Detected
HIVc	0d+	M,F	Non-Reactive
Hep B Surface Ab	0d+	M,F	Immune
Hep C Ab	0d+	M,F	Negative
Anti-HAV	0d+	M,F	Antibody Negative
Hep A IgM	0d+	M,F	Negative
Hep B Core IgM	0d+	M,F	Negative
Hep B Surface Ag	0d+	M,F	Negative

Test	Reference Range		
	Age	Gender	Range
ABG pH	0d+	M,F	7.35-7.45
ABG pCO2	0d+	M,F	35-45 mmHg
ABG PO2	0d+	M,F	80-100 mmHg
ABG HCO3	0d+	M,F	19.0-31.0 mmol/L
ABG BE	0d+	M,F	-2.0-2.0 mmol/L
ABG O2S	0d+	M,F	94.0-98.0 %
VBG pH	0d+	M,F	7.32-7.43
VBG pCO2	0d+	M,F	41-51 mmHg
VBG PO2	0d+	M,F	<38 mmHg
VBG HCO3	0d+	M,F	24.0-28.0 mmol/L
VBG BE	0d+	M,F	0.0-4.0 mmol/L
VBG O2S	0d+	M,F	70.0-80.0 %
Capillary pH	0d+	M,F	7.35-7.45
Capillary pCO2	0d+	M,F	35-42 mmHg
Capillary PO2	0d+	M,F	40-50 mmHg
Capillary BE	0d+	M,F	-4.0-4.0 mmol/L
CORD pH	0d+	M,F	7.25-7.41
CORD pCO2	0d+	M,F	35-51 mmHg
CORD PO2	0d+	M,F	≤41 mmHg
CORD BE	0d+	M,F	-7.1--0.2 mmol/L
Ionized Calcium	0d	M,F	4.80-5.52 mg/dL
	19y+	M,F	4.64-5.28 mg/dL
Carbon Monoxide	0d+	M,F	<4.0%
Quantiferon-TB	0d+	M,F	Negative
Syphilis IgG	0d+	M,F	Negative
Lyme Ab Screen	0d+	M,F	Negative

*Age includes age listed up to age in next row for each analyte

d=Days M=Male

m=Months F=Female

y=Years U=Unknown