

## 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	50-750 mOsm/kg
	1y	M,F	150-1150 mOsm/kg
Acetaminophen	0d	M,F	Therapeutic <50 mcg/mL
Albumin	0d	M,F	2.8-4.2 g/dL
	2m	M,F	3.5-5.7 g/dL
ALP	0d	M,F	83-248 U/L
	15d	M,F	122-469 U/L
	1y	M,F	142-335 U/L
	10y	M,F	129-417 U/L
	13y	M,F	57-468 U/L
	15y	M,F	50-331 U/L
	17y	M,F	35-149 U/L
ALT	0d	M,F	7-52 U/L
Ammonia	0d	M,F	16-53 mcmol/L
Amylase	0d	M,F	29-103 U/L
AST	0d	M,F	13-39 U/L
bHCG	0d	M,F	<5.00 mIU/mL
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 mcg/mL
CEA	0d	M,F	0.1-5.0 ng/mL
Cholesterol	2y	M,F	<170 mg/dL
	18y	M,F	<200 mg/dL
CK	0d	M,F	10-223 U/L
CKMB	0d	M,F	0.6-6.3 ng/mL

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Chloride	0d	M,F	97-108 mmol/L
	6m	M,F	101-111 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 mcg/dL
			PM <10 mcg/dL
Creatinine	0d	M,F	0.3-1.0 mg/dL
	10d	F	0.51-0.95 mg/dL
		M	0.67-1.17 mg/dL
CRP	0d	M,F	<8.01 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	0.03-0.18 mg/dL
Digoxin	0d	M,F	0.8-2.0 ng/mL
EtOH	0d	M,F	<13 mg/dL
Ferritin	0d	M	24-336 ng/mL
		F	11-307 ng/mL
Folate	0d	M,F	5.9-24.8 ng/mL

Test	Reference Range		
	Age	Gender	Range
FSH *Normally Menstruating	1d	M	≤3.0 mIU/mL
		F	≤3.4 mIU/mL
	8d	M	≤1.4 mIU/mL
		F	≤1.0 mIU/mL
	16d	M	≤2.5 mIU/mL
		F	≤3.3 mIU/mL
	4y	M	≤6.7 mIU/mL
	7y	M	≤4.1 mIU/mL
		F	≤11.1 mIU/mL
	9y	M	≤4.5 mIU/mL
		F	0.4-6.9 mIU/mL
	11y	M	0.4-8.9 mIU/mL
		F	0.4-9.0 mIU/mL
	12y	M	0.5-10.5 mIU/mL
		F	1.0-17.2 mIU/mL
	13y	M	0.7-10.8 mIU/mL
		F	1.8-9.9 mIU/mL
	14y	M	0.5-10.5 mIU/mL
		F	0.9-12.4 mIU/mL
	15y	M	0.4-18.5 mIU/mL
	16y	M	≤9.7 mIU/mL
	17y	M	2.2-12.3 mIU/mL
		F	1.2-9.6 mIU/mL
	18y	M	1.0-18.0 mIU/mL
19y	M	1-20 mIU/mL	
Follicular Phase	F*	3-9 mIU/mL	
Mid-Cycle Peak	F*	4-23 mIU/mL	
Luteal Phase	F*	1-6 mIU/mL	
Post Menopausal	F	16-114 mIU/mL	
FT3	0d	M,F	2.5-3.9 pg/MI
FT4	0d	M,F	0.61-1.12 ng/dL
Gentamicin	0d	M,F	0.0-2.0 mcg/mL Trough
			4.0-8.0 mcg/mL Peak
GGT	0d	M,F	9-64 U/L
Glucose	0d	M,F	40-120 mg/dL
	1d	M,F	50-120 mg/dL
	7d	M,F	70-100 mg/dL
HDL	2y	M,F	>59 mg/dL
	18y	M,F	40-60 mg/dL

Test	Reference Range		
	Age	Gender	Range
Insulin	0d	M,F	2.0-16.0 mcIU/mL
Iron	0d	M,F	50-212 ug/dL
Lactic Acid	0d	M,F	0.5-2.0 mmol/L
LDH	0d	M,F	140-271 U/L
LDL	2y	M,F	<110 mg/dL
	18y	M,F	<100 mg/dL
LH *Normally Menstruating	16d	M	0.3-2.8 mIU/mL
		F	0.3-1.9 mIU/mL
	7y	F	≤3.0 mIU/mL
	9y	F	≤4.0 mIU/mL
	11y	M	0.3-1.8 mIU/mL
		F	≤6.5 mIU/mL
	12y	M	0.3-4.0 mIU/mL
		F	0.4-9.9 mIU/mL
	13y	M	0.3-6.0 mIU/mL
		F	0.3-5.4 mIU/mL
	14y	M	0.5-7.9 mIU/mL
		F	0.5-31.2 mIU/mL
	15y	M	0.5-10.8 mIU/mL
		F	0.5-20.7 mIU/mL
	16y	F	0.4-29.4 mIU/mL
	17y	M	0.9-5.9 mIU/mL
		F	1.6-12.4 mIU/mL
	18y	M	1.8-8.6 mIU/mL
	19y	M	2-12 mIU/mL
	Follicular Phase	F*	1-18 mIU/mL
Mid-Cycle Peak	F*	24-105 mIU/mL	
Luteal Phase	F*	0.6-20 mIU/mL	
Post Menopausal	F	15-62 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
Myoglobin	0d	M	17.4-105.7 ng/mL
		F	14.3-65.8 ng/mL
Phenobarbital	0d	M,F	17-34 mcg/mL
Phenytoin	0d	M,F	10-20 mcg/mL

Test	Reference Range		
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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
Prealbumin	0d	M,F	18-38 mg/dL
Progesterone	Follicular Phase	F	0.3-1.5 ng/mL
	Mid-Luteal Phase	F	5.2-18.5 ng/mL
	Post Menopausal	F	<0.8 ng/mL
	Pregnant Trimester1	F	4.7-50.0 ng/mL
	Pregnant Trimester2	F	19.4-45.3 ng/mL
Prolactin	19y	M	1.0-20.0 ng/mL
		F	1.0-25.0 ng/mL
PSA	0d	M,F	0.000-4.000 ng/mL
PTH	0d	M,F	12-88 pg/mL
PTHio	0d	M,F,U	12-88 pg/mL
RF	0d	M,F	<15 IU/mL
Rubella	0d	M,F	Immune
Salicylate	0d	M,F	<30 mg/dL
Sensitive Estradiol (Non-Pregnant)*	Pediatric	M,F	≤38.2 pg/mL
	Pre-Puberty	M	<15.0 pg/mL
	Puberty	M	≤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*	≤196.0 pg/mL
	Post Menopausal	F*	≤25.1 pg/mL
Sodium	0d	M,F	130-145 mmol/L
	1y	M,F	135-145 mmol/L

Test	Reference Range		
	Age	Gender	Range
Testosterone	0d	M	75-400 ng/dL
		F	20-80 ng/dL
	5m	M,F	<7-20 ng/dL
	10y	M	<7-130 ng/dL
		F	<7-44 ng/dL
	12y	M	<7-800 ng/dL
		F	<7-75 ng/dL
	14y	M	<7-1200 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
Theophylline	0d	M,F	10-20 mcg/mL
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	6.09-12.23 mcg/dL
TPO	0d	M,F	<9 IU/mL
Transferrin	0d	M,F	203-362 mg/dL
Triglycerides	2y	M,F	<90 mg/dL
	18y	M,F	<150 mg/dL
Troponin HS	0d	M	<20 pg/mL
		F	<15 pg/mL
TSH	0d	M,F	0.34-5.60 mcIU/mL
Uric Acid	0d	F	2.3-6.6 mg/dL
		M	4.4-7.6 mg/dL
Valproic Acid	0d	M,F	50-100 mcg/mL
Vancomycin	0d	M,F	10-20 mcg/mL
Vitamin B12	0d	M,F	180-914 pg/mL
Vitamin D	0d	M,F	20-50 ng/mL
Urine Chloride	0d	M,F	110-250 mmol/24h
Urine Creat	0d	F	20.00-320.00 mg/dL
		M	20.00-370.00 mg/dL
Urine Malb	0d	M,F	<30 mg/24h

Test	Reference Range		
	Age	Gender	Range
Urine Potassium	0d	M,F	25-125 mmol/24h
Urine Protein	0d	M,F	0-165 mg/24h
Urine Sodium	0d	M,F	40-220 mmol/24h
Amph	0d	M,F	None Detected
Barb	0d	M,F	None Detected
Benz	0d	M,F	None Detected
Cocaine	0d	M,F	None Detected
Opiates	0d	M,F	None Detected
PCP	0d	M,F	None Detected
THC	0d	M,F	None Detected
Bup	0d	M,F	None Detected
Fent	0d	M,F	None Detected
Hyd	0d	M,F	None Detected
Meth	0d	M,F	None Detected
Oxy	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	Negative
Hep A IgM	0d	M,F	Negative
Hep B Core IgM	0d	M,F	Non-Reactive
Hep B Surface Ag	0d	M,F	Non-Reactive
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	19-31 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	35-45 mmHg
VBG HCO3	0d	M,F	24-28 mmol/L
VBG BE	0d	M,F	0-4.0 mmol/L
VBG O2S	0d	M,F	70-80 %
CORD pH	0d	M,F	7.25-7.41
CORD pCO2	0d	M,F	35-51 mmHg
CORD PO2	0d	M,F	16.3-41.1 mmHg
CORD BE	0d	M,F	-7.1--0.2 mmol/L
Ionized Calcium	0d	M,F	1.20-1.38 mmol/L
	19y	M,F	1.16-1.32 mmol/L
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

d=Days	M=Male
m=Months	F=Female
y=Years	U=Unknown