

HEMATOLOGY

CBC w/ Differential, w/ Platelet

WBC	6.3	4.0 - 11.0	k/mm3	F7
RBC	5.46	4.30 - 6.00	m/mm3	F7
Hemoglobin	16.8	13.0 - 18.0	g/dL	F7
Hematocrit	49.2	40.0 - 53.0	%	F7
MCV	90.1	78.0 - 100.0	fL	F7
MCH	30.8	27.0 - 34.0	pg	F7
MCHC	34.1	31.0 - 37.0	g/dL	F7
Platelet Count	231	130 - 450	k/mm3	F7
RDW(sd)	42.5	38.0 - 49.0	fL	F7
RDW(cv)	12.9	11.0 - 15.0	%	F7
MPV	9.4	7.5 - 14.0	fL	F7
Segmented Neutrophils	49.2*		%	F7
Lymphocytes	34.3		%	F7
Monocytes	11.2		%	F7
Eosinophils	4.0		%	F7
Basophils	0.8		%	F7
Absolute Neutrophil	3.09	1.60 - 9.30	k/uL	F7
Absolute Lymphocyte	2.15	0.60 - 5.50	k/uL	F7
Absolute Monocyte	0.70	0.10 - 1.60	k/uL	F7
Absolute Eosinophil	0.25	0.00 - 0.70	k/uL	F7
Absolute Basophil	0.05	0.00 - 0.20	k/uL	F7
Immature Granulocytes	0.5		%	F7
Absolute Immature Granulocytes	0.03	0.00 - 0.10	k/uL	F7
NRBC RE, Nucleated Red Blood Cell Percent	0.0	0.0 - 1.0	%	F7
*Segmented Automated Diff Neutrophils:				

CHEMISTRY

Estradiol	38	7 - 50	pg/mL	F7
Estradiol Reference Ranges:				
Estradiol Adult Reference Ranges:				
Follicular:	12-233 pg/mL			
Ovulation:	41-398 pg/mL			
Luteal:	22-341 pg/mL			
Postmenopausal:	<139 pg/mL			
Pregnancy (1st Trimester):	154-3243 pg/mL			
Pregnancy (2nd Trimester):	1561-21280 pg/mL			
Pregnancy (3rd Trimester):	>8525 pg/mL			
Male Reference Range:	7-50 pg/mL			
No reference ranges established for pediatric patients.				

Comprehensive Metabolic Panel

Glucose	95*	65 - 99	mg/dL	F7
Urea Nitrogen (BUN)	27 H	8 - 25	mg/dL	F7
Creatinine	0.94	0.60 - 1.50	mg/dL	F7
GFR Estimated (Non-African American)	90	≥61	mL/min/1.73m2	F7

GFR Estimated (African American)	104	261	mL/min/1.73m ²	F7
BUN/Creatinine Ratio	28.7 H	10.0 - 28.0		
Sodium	139*	134 - 147	mmol/L	F7
Potassium	4.7*	3.6 - 5.3	mmol/L	F7
Chloride	101*	95 - 108	mmol/L	F7
Carbon Dioxide (CO ₂)	25	19 - 31	mmol/L	F7
Anion Gap	13	4 - 18		F7
Protein, Total	7.4	6.0 - 8.0	g/dL	F7
Albumin	4.7*	3.4 - 4.9	g/dL	F7
Globulin	2.7	2.0 - 3.7	g/dL	F7
Albumin/Globulin Ratio	1.8	1.0 - 2.4		F7
Calcium	9.4*	8.8 - 10.4	mg/dL	F7
Alkaline Phosphatase	54	40 - 129	IU/L	F7
Alanine Aminotransferase	35	5 - 60	IU/L	F7
Aspartate Aminotransferase	24	10 - 50	IU/L	F7
Bilirubin, Total	0.5	0.2 - 1.3	mg/dL	F7

*Glucose: Glucose reference range reflects fasting state.
 *Sodium: Note: new reference range effective 6/25/2018
 *Potassium: Note: new reference range effective 6/25/2018
 *Chloride: Note: new reference range effective 6/25/2018
 *Albumin: Note: new reference range effective 6/25/2018
 *Calcium: Note: new reference range effective 6/25/2018

Testosterone, Free (Dialysis) and Total (LC/MS/MS)

Testosterone, Free	308.5 H *	35.0-155.0	pg/mL	SL
Testosterone, Total, LC/MS/MS	1336 H *	250-1100	ng/dL	SL

*Testosterone, Free: Adult Reference Ranges:
 Testosterone, Free
 Age Males Females
 (pg/mL) (pg/mL)
 18-69 years 35.0-155.0 0.1-6.4
 70-89 years 30.0-135.0 0.2-3.7
 Pediatric Reference Ranges:
 Testosterone, Free
 Age Males Females
 (pg/mL) (pg/mL)
 5-9.9 years 5.3 or less 0.2-5.0
 10-13.9 years 0.7-52.0 0.1-7.4
 14-17.9 years 18.0-111.0 0.5-3.9
 *Testosterone, Total, LC/MS/MS: Adult Reference Ranges:

Testosterone, Total
 Males:
 > or = 18 years 250-1100 ng/dL
 Females:
 > or = 18 years 2-45 ng/dL
 Males: Men with clinically significant hypogonadal symptoms and testosterone values repeatedly in the range of the 200-300 ng/dL or less, may benefit from testosterone treatment after adequate risk and benefits counseling.
 Pediatric Reference Ranges:
 Testosterone, Total
 Age Males Females
 (ng/dL) (ng/dL)

**Cord Blood	17-61	16-44
**1-10 days	187 or less	24 or less
**1-3 months	72-344	17 or less
**3-5 months	201 or less	12 or less
**5-7 months	59 or less	13 or less
**7-12 months	16 or less	11 or less
1-5.9 years	5 or less	8 or less
6-7.9 years	25 or less	20 or less
8-10.9 years	42 or less	35 or less
11-11.9 years	260 or less	40 or less
12-13.9 years	420 or less	40 or less
14-17.9 years	1000 or less	40 or less

**Data from J Clin Invest 1974;53:819-828 and J Clin Endocrinol Metab 1973;36:1132-1142.

Pediatric Reference Ranges by Pubertal Stage

Testosterone, Total

Tanner Stage	Males (ng/dL)	Females (ng/dL)
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Stage I	5 or less	8 or less
Stage II	167 or less	24 or less
Stage III	21-719	28 or less
Stage IV	25-912	31 or less
Stage V	110-975	33 or less

Total Testosterone was measured by LCMSMS.

The LCMSMS method correlates well with our extraction/RIA method.

This test was developed and its analytical performance characteristics have been determined by Quest Diagnostics Nichols Institute Valencia. It has not been cleared or approved by the US Food and Drug Administration. This assay has been validated pursuant to the CLIA regulations and is used for clinical purposes.

Tests Ordered: CBC w/ Differential, w/ Platelet; Estradiol; Testosterone, Free (Dialysis) and Total (LC/MS/MS); Comprehensive Metabolic Panel

Values Outside of Reference Range

TEST	RESULTS	REFERENCE RANGES	UNITS
Urea Nitrogen (BUN)	27 H	8 - 25	mg/dL
BUN/Creatinine Ratio	28.7 H	10.0 - 28.0	
Testosterone, Free	308.5 H	35.0-155.0	pg/mL
Testosterone, Total, LC/MS/MS	1336 H	250-1100	ng/dL

Values listed above may not include all results considered abnormal for this patient (e.g., text-only results, such as those for some pathology/cytology specimens, and results for analytes without established reference ranges will not appear). Always review the entire patient report and correlate all results with the patient's clinical condition.