

CHEMISTRY TESTS

TEST	REFERENCE RANGE	CRITICAL VALUE	TEST	REFERENCE RANGE	CRITICAL VALUE
Sodium	136 – 146 mmol/L	Adults <120 or > 160 mmol/L Newborn (< = 28 days) 150 mmol/L	Anion Gap, calculated	6-14 mmol/L	
Potassium	3.5 – 5.1 mmol/L	< =2.7 mmol/L > = 6.0 mmol/L 8-28 days: 6.0 mmol/L 0 – 7 days: < 2.8 mmol/L > 7.0 mmol/L	Osmolality, calculated	280 – 305 mOsm/Kg H ₂ O	
Chloride	98 -107 mmol/L		GFR Non-African	>60 mL/min/1.73m ² MDRD calculation	
Calcium	8.4 - 10.3 mg/dL	< 7.0 > 12.0 mg/dL	GFR African	>60 mL/min/1.73m ² MDRD calculation	
BUN	7 – 21 mg/dL		Cholesterol	Risk Factor Guidelines: Desirable < 200 mg/dL Borderline High 200-239 mg/dL High >239 mg/dL	
Glucose	ADA decision limits for fasting glucose: 70-99 mg/dL: Normal 100-125 mg/dL: Impaired >125 mg/dL: Diabetes	< 50 mg/dL > 500 mg/dL Newborn < 28 days < 40 mg/dL > 250 mg/dL	Triglyceride	Normal < 150 mg/dL Borderline high 150-199 mg/dL High 200-499 mg/dL Very high >499 mg/dL	
CO₂	22 – 32 mmol/L	< 10 mmol/L > 40 mmol/L	HDL	Male 30-70 mg/dL Female 30-85 mg/dL Low risk <40mg/dL High risk >59 mg/dL	
Albumin	3.3 - 5.0 g/dL		LDL Calculated	<130 mg/dL Optimal Above optimal 100-129 mg/dL Borderline high 130-159 mg/dL High 160-189 mg/dL Very high >189 mg/dL	
ALT	F: 13-59 U/L M: 16-63 U/L Ages F M 0- <1 yr 13-41 16-41 1- <13 yrs 13-32 16-32 13- <19 yrs 13-29 16-31		LDL, Direct	<130 mg/dL Optimal Above optimal 100-129 mg/dL Borderline high 130-159 mg/dL High 160-189 mg/dL Very high >189 mg/dL	
Creatinine	F: 0.5 – 1.0 mg/dl M: 0.7 - 1.3 mg/dl		TSH	0.358 – 3.800 uIU/mL	Newborn < 28 days < 0.1 uIU/mL > 10.0 uIU/mL
AST	Adults > 19 years 15 – 37 U/L F M 0- 14 days 15-185 15-185 15 days <1yr15-73 15-73 1- <7 yrs 15-46 15-46 7- <12 yrs 15-37 15-37 12- <19 yrs15-25 15-36		Free T₄	0.76 – 1.46 ng/mL	
Total Protein	6.3 – 8.2 g/dL		Free T₃	2.18 – 3.98 pg/mL	
Total Bilirubin	0.1 – 1.2 mg/dL	Newborn < 28 days old >15 mg/dL	Total T₄	4.7 – 13.3 mcg/dL Newborn patients < 28 days old have code auto appended: NOTE: Reference range not established for patients less than 29 days old. However, total T ₄ values in newborns can be significantly higher than the	Newborn < 28 days < 5.0 mcg/dl >20.0 mcg/dl

TEST	REFERENCE RANGE	CRITICAL VALUE	TEST	REFERENCE RANGE	CRITICAL VALUE
				adult range of 4.7-13.3 mcg/dL	
Alkaline Phosphatase	Over 19 years 38-126 U/L Ages F M 0-14 days 82-249 82-249 15 days <1yr 122-473 122-473 1- <10yrs 142-336 142-336 10 - <13yrs 128-420 128-420 13- <15 yrs 55-225 115-471 15- <17 yrs 49-166 81-333 17- <19 yrs 43-86 53-149		Ferritin	Males 26.0 – 388.0 ng/mL Females 8.0 – 252.0 ng/mL	
Folate	3.1-17.5 ng/mL		Transferrin	200 - 360 mg/dL	
Iron	Males: 65 - 175 mcg/dL Females: 50 - 170 mcg/dL		Amylase	30 – 110 U/L	
Iron Binding Capacity Calc	250-450 mcg/dL		Direct Bilirubin	0.0-0.30 mg/dL	
Iron Saturation Calc	20-50 %		CK Total	F: 26-192 U/L M: 39-308 U/L	
Lithium	0.6 – 1.2 mmol/L	> 1.4 mmol/L	Digoxin	< 1.0 ng/mL (therapeutic range)	>2.5 ng/mL
Lipase	73 – 393 U/L		GGT	F:5-55 U/L M:15-85 U/L	
Magnesium	1.6 – 2.6 mg/dL	< 1.0 mg/dl > 4.0 mg/dL Newborn < 28 days < 1.0 mg/dl > 3.0 mg/dL	Lactic Acid	0.4 – 2.0 mmol/L	> = 4.0 mmol/L
Phosphorus	2.5 – 4.8 mg/dL	< 1.1 mg/dL	LDH	M: 87-241 U/L F: 84 -246 U/L	
Uric Acid	Male 3.5 – 7.2 mg/dL Female 2.6 – 6.0 mg/dL		Alpha 1 antitrypsin	90 – 200 mg/dL	
Uric Acid Rasburicase study	Male 3.5 – 7.2 mg/dL Female 2.6 – 6.0 mg/dL		CRP	<10mg/L	
C4	10 - 40 mg/dL		APOB	M: 55-140 mg/dL F: 55 - 125 mg/dL	
Ceruloplasmin	15 - 41 mg/dL		ASO	0 - 408 IU/mL	
hsCRP	<3.0 mg/L CRP-hs results may be used to assign risk as follows: 3.0 mg/L highest tertile, highest risk.		C3	90 - 180 mg/dL	
Haptoglobin	30 – 200 mg/dL		Rheumatoid Factor	< 15 IU/mL	
IGA	70 – 400 mg/dL		Carbamazepine	4.0 - 12.0 mcg/mL	>12.0 mcg/mL
IGG	700 – 1600 mg/dL		CKMB	0.5 – 3.6 ng/mL	
IGM	40 – 230 mg/dL		Phenytoin	10 -20 mcg/mL	> 30 mcg/mL Newborn > 25 mcg/mL
Prealbumin	20.0 – 40.0 mg/dL		Theophylline	10-20 mcg/mL	> 25 mcg/mL
Vancomycin, Random	No Reference Range		Valproic Acid	50-100 mcg/mL	> 150 mcg/mL
Vancomycin, Trough	29D & up 5.0 – 20.0 mcg/mL 0 to ≤ 28 days 5.0 – 10.0 mcg/mL	Adults >25 mcg/mL Newborn > 15 mcg/mL	Gentamicin, Random	No Reference Range	

TEST	REFERENCE RANGE	CRITICAL VALUE	TEST	REFERENCE RANGE	CRITICAL VALUE
Vancomycin, Peak	25.0-40.0 mcg/mL	Adults > 50 mcg/mL Newborn > 45 mcg/mL	Gentamicin, Trough	0.0-1.9 mcg/mL	> 3 mcg/mL Newborn > 2.5 mcg/mL
HCG	Normal (non-pregnant) 0-5 mIU/mL Gestational Age hCG mIU/mL 0.2-1 week 5-50 1-2 weeks 50-500 2-3 weeks 100-5000 3-4 weeks 500-10000 4-5 weeks 1000-50000 5-6 weeks 10000-100,000 6-8 weeks 15000-200,000 2-3 months 10000-100,000 This Quantitative hCG assay is not FDA approved for use as a tumor marker		Gentamicin, Peak	4.0-10.0 mcg/mL	> 12 mcg/mL Newborn > 15 mcg/mL
URINE CHEMISTRY TESTS			Tobramycin, Random	No Reference Range	
Urine Amylase	Random: No established range 24 hours: No established range		Tobramycin, Trough	0.0-1.9 mg/mL	> 3 mg/mL Newborn > 2.5 mg/mL
Urine Calcium	Random: No established range 24 hours: 0-300 mg/24hr		Tobramycin, Peak	4.0-10.0 mg/mL	> 12 mg/mL Newborn > 15 mg/mL
Urine Creatinine	Random: Male:40.0 -278.0 mg/dL Female: 29.0 -226.0 mg/dL 24-hour urine: Male: 0.9 - 2.4 g/24 hr Female: 0.7 - 1.6 g/24 hr		Ammonia	11-32 umol/L	Newborn < 28 days old > 100 mcmol/L
Creatinine Clearance 24hrs	Male: 97 -137 mL/min Female: 88- 128 mL/min		Troponin	< 0.046 ng/mL	> = 0.100 ng/mL
Urine Chloride	Random: No established range 24 hour: 110-250 mmol/L/24hr		PBNP	75 YRS: < 450 pg/mL	
Urine Creatinine	Random: Male: 40.0 -278.0 mg/dL Female: 29.0 -226.0 mg/dl 24-hour urine: Male: 0.9 - 2.4 g/24hr Female: 0.7 - 1.6 g/24hr		CA19-9	2 - 37 IU/mL	
Urine Glucose	Random: No established range 24 hours: No established range		Mycophenolic Acid	Patient assessment required	
Urine Potassium	Random: No established range 24 hours: 25-125 mmol/24 hr		Tacrolimus	Patient assessment required	
Urine Phosphorus	Random: No established range 24 hours: 0.4-1.3 g/24hr		Sirolimus	Patient assessment required	
Urine Magnesium	Random: No established range 24 hours: No established range		Cyclosporine	Patient assessment required	
Protein Creatinine Ratio, Random and Timed Urine	Random: 0-200 mg/g 24 hours: 0-200 mg/24hr		Testosterone	Adult Males <50Y (240.24-870.68 ng/dL) Adult Males > = 50Y (220.91-715.81 ng/dL) Adult Females 21- 49 years old 13.84-53.35 ng/dL Adult females ≥50 years old 12.40-35.76 ng/dL	

TEST	REFERENCE RANGE	CRITICAL VALUE	TEST	REFERENCE RANGE	CRITICAL VALUE
Urine Sodium	Random: No established range 24 hours: 40-220 mmol/L/24hr		HIV Ag/Ab Architect Combo	Non-reactive	
Urine Total Protein	Random: 0 - 11 mg/dL 24 hours: 0 - 149 mg/24hr		SARS Cov-2 IgG Antibody	Negative	
Urine Uric Acid	Random: No established range 24 hours: 250 - 750 mg/24hr		Gestational-Glucose Screen, Pregnancy, 50 gm/ One-Hour Gestational Screen	<140 mg/dL	< 50 mg/dl > 500 mg/dL Newborn < 28 days < 40 mg/dL > 250 mg/dL
Urine Urea	Random: No established range 24 hours: No established range		Gestational-Glucose Tolerance Test, Pregnancy, 100gm/ Gestational Glucose Tolerance Test	Fasting: <95 mg/dL 1 hour: <180 mg/dL 2 hour: < 155 mg/dL 3 hour: < 140 mg/dL	< 50 mg/dl > 500 mg/dL Newborn < 28 days < 40 mg/dl > 250 mg/dL
Urine Microalbumin 24 hrs	Microalbumin Quant 0 - 20 mg/24hr Microalb/Creat Ratio 0 - 30 mg/24hr		Glucose, 2-hour Post Prandial/ Glucose Tolerance Test (Non-Gestational) 75 gm	<140 mg/dL	< 50 mg/dl > 500 mg/dL Newborn < 28 days < 40 mg/dl > 250 mg/dL
Urine Microalbumin Random	Microalbumin Quant. 0 - 20 mg/L Microalb/Creat. Ratio 0- 30 mg/g		Hemoglobin A1C (Glycated Hemoglobin)	Non-diabetic <6.5 % of total hemoglobin Pre-diabetic 5.7 – 6.4 % of total hemoglobin Diabetic > = 6.5 % of total hemoglobin	
Fecal occult blood (FOB)	Negative		FSH	Males 1.4 - 18.1 mIU/mL Females: Follicular phase 2.5 - 10.2 mIU/mL Midcycle phase 3.4 - 33.4 mIU/mL Luteal 1.5 - 9.1 mIU/mL Pregnant <0.3 mIU/mL	
Cortisol, Random (COR)	Before 10am (CORTAM) 3.7-19.4 mcg/dL After 4pm (CORTPM) 2.9-17.3 mcg/dL		LH	Females: Normally Menstruating Follicular phase 1.9-12.5 mIU/mL Midcycle peak 8.7-76.3 mIU/mL Luteal phase 0.5-16.9 mIU/mL Pregnant <0.1-1.5 mIU/mL Postmenopausal 15.9-54.0 mIU/mL Contraceptives 0.7-5.6 mIU/mL Males: 20-70 yrs 1.5 -9.3 mIU/mL >70 yrs 3.1 – 34.6 mIU/mL Children: <0.1 – 6.0 mIU/mL	
Cortisol, AM (COR)	Before 10am (CORTAM) 3.7-19.4 mcg/dL After 4pm (CORTPM) 2.9-17.3 mcg/dL		Progesterone (PRGE)	Males: 0.3 – 1.2 ng/mL Females: Luteal Phase 3.3-25.6 ng/mL Mid-Luteal Phase 4.4-28.0 ng/mL Post-Menopausal Females 0.0-0.7 ng/mL Pregnant Females: First Trimester 11.2-90.0 ng/mL Second Trimester 25.6-89.4 ng/mL Third Trimester 48.4-422.5 ng/mL DHEAS used as part of in vitro fertilization (IVF) protocols may cause a falsely elevated progesterone result on the	

TEST	REFERENCE RANGE	CRITICAL VALUE	TEST	REFERENCE RANGE	CRITICAL VALUE
				Siemens Advia Centaur. Progesterone level used as a criterion for fresh embryo transfer in patients supplemented with DHEAS should be assessed using an alternate assay such as LCMS chromatography.	
Cortisol, PM (COR)	Before 10am (CORTAM) 3.7-19.4 mcg/dL After 4pm (CORTPM) 2.9-17.3 mcg/dL		Prolactin (PRL)	Males 2.1 - 17.7 ng/mL Females: Nonpregnant 2.8 - 29.2 ng/mL Pregnant 9.7 - 208.5 ng/mL Postmenopausal 1.8 - 20.3 ng/mL	
Cortisol, Baseline (COR)	Baseline: >5.0 mcg/dL		T3	60-181 ng/dL	
Cortisol, Post Cortrosyn (COR) CS30M CS45M CS60M	After Cortrosyn: >17 mcg/dL		VB12	211-911 pg/mL	
Cortisol, Post Dex (COR)	<5 mcg/dL		Alpha-fetoprotein (AFP)	0-15 ng/mL	
Cortisol, Post Stimulation (COR)	After Cortrosyn: >18 mcg/dL		CA27.29 BR assay (BR)	< 38.6 U/mL	
Estradiol (eE2)	Males <39.0 pg/mL Females: Category/Phase Reference Range (pg/mL) Menstruating Females (by day in cycle relative to LH peak) Follicular (-12 to -4 days) 18.9-246.7 pg/mL Midcycle (-3 to +2 days) 35.5-570.8 pg/mL Luteal (+4 to +12 days) 22.4-256.0 pg/mL Postmenopausal (untreated) Not detectable - 44.5 pg/mL Patients being treated with fulvestrant (Faslodexr) may have falsely elevated estradiol results.		CA125	0-35 U/mL	
Carcinoembryonic Antigen (CEA)	<2.5 ng/mL (adult non-smoker) <5.0 ng/mL (adult smoker)		Hepatitis B surface antigen (HBSII)	Non-reactive	
PSA	Males 0 – 49 yrs 0.0 – 2.5 ng/mL 50 – 59 yrs 0.0 – 3.5 ng/mL 60 – 69 yrs 0.0 – 4.5 ng/mL >70 yrs 0.0 – 6.5 ng/mL Females < 4.0 ng/mL		Hepatitis B surface antigen confirmatory (CONF)	Negative	
IPTH Intact PTH	18.5-88.0 pg/mL Serum values		Hepatitis B surface antibody (aHBs2)	<10.0 mIU/mL Non-Immune to HBV Infection >9.9 mIU/mL Immune to HBV infection	
Cyclic Citrullinated Peptide (ACCP)	0.0 – 4.99 U/mL		Hepatitis B core IgM antibody (aHBCM)	Non-reactive	
Anti-Thyroglobulin (aTG)	<61 U/mL		Hepatitis B core Ab total (HBcT)	Non-reactive	

TEST	REFERENCE RANGE	CRITICAL VALUE	TEST	REFERENCE RANGE	CRITICAL VALUE
Anti-thyroid-Peroxidase (aTPO)	<60.1 U/mL		Hepatitis C antibody (aHCV)	Non-reactive	
Rubella IGG (RubG)	≤5.0 IU/mL Negative for IgG antibodies to Rubella virus ≥ 5.0 IU/mL and ≤9.9 Equivocal ≥10.0 IU/mL Positive for IgG antibodies to Rubella virus		Hepatitis A Ab total (HAVT)	Non-reactive	
Vitamin D (VitD)	Deficiency < 20 ng/mL Insufficiency 20 - 29.9 ng/mL Optimum Level 30 - 100 ng/mL Possible Toxicity >100 ng/mL No pediatric range established		Hepatitis A IgM Antibody (aHAVM)	Non-reactive	
Syphilis (SYPH)	Non-Reactive		Sex Hormone Binding Globulin (SBG)	M: 13 – 71 nmol/L F: 18 -114 nmol/L	
C-Peptide (PEP)	0.9 - 7.1 ng/mL		Thyroglobulin (TG)	0.0 - 55.0 ng/mL	
Beta 2 Microglobulin (BMG)	1.0 - 1.7 mg/L		Homocysteine (HCY)	<60 years: 5 - 15 umol/L >60 years: 5 - 20 umol/L	
DHEA Sulfate (DHS)	Males: Age: 20 - 29 104 - 457 mcg/dL 30 - 39 76 - 334 mcg/dL 40 - 49 55 - 224 mcg/dL 50 - 59 41 - 178 mcg/dL 60 - 69 30 - 130 mcg/dL >69 0 - 95 mcg/dL Females: Age: 20 - 29 38 - 321 mcg/dL 30 - 39 0 - 246 mcg/dL 40 - 49 0 - 188 mcg/dL 50 - 59 0 - 144 mcg/dL 60 - 69 0 - 110 mcg/dL >69 0 - 84 mcg/dL Pediatrics - Reference range not established.		Insulin (INS)	6 - 27 uIU/mL	
SPE (Allergy) Common Aeroallergen Panel Common Food Allergen Panel Additional Pollen Panel	Class kU/L Allergen Reactivity 0 <0.10 Absent or ND 0 0.10 - 0.34 Very Low I 0.35 - 0.69 Low II 0.70 - 3.49 Moderate III 3.50 - 17.49 High IV 17.5 - 52.49 Very High V 52.5 - 99.99 Very High VI ≥=100 Very High		Immunoglobulin IgE (TIE)	<88 IU/mL	

SORRENTO MESA CORE LAB IMMUNOLOGY TESTS

Test	Reference Range	Test	Reference Range
LYM Borrelia burgdorferi (Lyme), IgG/IgM	=/<0.90 OD Ratio Negative 0.91 to 1.09 OD Ratio Equivocal =>1.10 OD Ratio Positive	RPR RPRT RPRM	Non-Reactive
ACLP Anticardiolipin antibodies, IgG and IgM	Cardiolipin IgM <20 MPL Negative 20-29 MPL Low Positive 30-79 MPL Moderate Positive >79 MPL High Positive Cardiolipin IgG <20 GPL Negative 20-29 GPL Low Positive 30-79 GPL Moderate Positive >79 GPL High Positive	Free light chain/ratio Kappa Quantitative Free Light Chain Lambda Quantitative Free Light Chain Kappa/Lambda Free Light Chain Ratio (calculated)	3.30 – 19.40 mg/L 5.71 – 26.30 mg/L 0.26 – 1.65
CMVG Cytomegalovirus, IgG	=/<0.90 OD Ratio Negative 0.91 to 1.09 OD Ratio Equivocal =>1.10 OD Ratio Positive	Cold agglutinin Titer at 4°C, 22°C, 37°C	Normal = titer of 1:32 or less Elevated = 1:64 or greater
CMVM Cytomegalovirus, IgM	=/<0.90 OD Ratio Negative 0.91 to 1.09 OD Ratio Equivocal =>1.10 OD Ratio Positive	Cryoglobulin	Negative
EBVPL Epstein-Barr Virus Ab Panel without Early Antigen Includes: Viral Capsid Antigen IgG Viral Capsid Antigen IgM Nuclear Ag Antibodies	No detectable antibody to EBV IgG, EBV IgM, EBV EBNA IgG Index Value (IV) =<0.90 IV Negative 0.91 to 1.09 IV Equivocal =>1.10 IV Positive	HIV GEENIUS HIV1-Ab Supplemental HIV2-Ab Supplemental	Non-Reactive Non-Reactive
HSV1GG HerpeSelect1 ELISA IgG by Focus Technologies	Index Value (IV) =<0.90 IV Negative No IgG antibodies to HSV-1 0.91 to 1.09 IV Equivocal =>1.10 IV Positive Presumptive for the presence of IgG antibodies to HSV-1	ANA EIA Anti-Smith (SM) Ab Sjogren's AB SSA AB SSB AB Scleroderma Ab SCL-70	Negative
HSV2GG HerpeSelect2 ELISA IgG by Focus Technologies	Index Value (IV) =<0.90 IV Negative No IgG antibodies to HSV-2 0.91 to 1.09 IV Equivocal =>1.10 IV Positive Presumptive for the presence of IgG antibodies to HSV-2	HEP-2 PATTERN DNA	Negative at 1:10
RUBO Measles (Rubeola) IgG	=/<0.90 OD Ratio Negative 0.91 to 1.09 OD Ratio Equivocal =>1.10 OD Ratio Positive	Liver Kidney Microsomal AB (LKMA)	Negative 1:20
MUMPSG Mumps IgG	=/<0.90 OD Ratio Negative 0.91 to 1.09 OD Ratio Equivocal =>1.10 OD Ratio Positive Indicates past or current infection with Mumps Virus or prior vaccination against Mumps Virus.	Antimitochondrial AB (AMITA)	Negative at 1:20
VRCZ Varicella-Zoster Virus IgG	=/<0.90 OD Ratio Negative for IgG antibodies to VZV. Indicates no current or previous infection with VZV. Non-Immune 0.91-1.09 OD Ratio Equivocal. Should be retested. =>1.10 OD Ratio Positive for IgG antibodies to VZV. Indicates past or current VZV infection. Immune.	Anti-smooth muscle AB (ASMA)	Negative at 1:20
QuantiFERON (QTB) Interpretation CD4 Lymphocyte Reactivity (TB1-NIL) CD4 and CD8 Lymphocyte Reactivity (TB2-NIL)	<0.35 IU/ml Negative = >0.35 IU/ml Positive 0.0 to 0.34 IU/ml 0.0 to 0.34 IU/ml		

HEMATOLOGY/COAGULATION

TEST	REFERENCE RANGE	CRITICAL VALUE	TEST	REFERENCE RANGE
PROTHROMBIN TIME (seconds)	10.0-13.1 (>= 18Yr) 8.8-12.5 (6 mos to < 18 yr) 8.8-14.7 (0-6 mos)	N/A (>= 18Yr) >17 (6 mos to < 18 yr) >19 (0-6 mos)	Activated Protein C (FV Leiden)	Greater than 2.2 ration
INR	Therapeutic: 2.0 – 3.0 conventional anticoagulation 2.5-3.5 intensive anticoagulation	>= 4.0 (>= 18Yr) > 4.0 (< 18 yr)	Anti-thrombin	83 – 128%
ACTIVATED PTT (seconds)	26-38 (>= 18Yr) 25-39 (<18yr) Therapeutic: 53-87 seconds	>=90 (>= 18Yr) >45 (6mo to < 18 yr) >49 (0-6 mos)	Protein C Activity	70 – 140%
FIBRINOGEN (mg/dl)	187-416 mg / dL (>= 18Yr) 150-400 mg/dL (<18yr)	<100	Factor II Activity	79 – 131%
PLATELET FUNCTION ASSAY	EPI: 73-190 seconds ADP: 65-118 seconds		Factor V Activity	62 – 139%
D-DIMER	< 500 ng/mL FEU (>= 18Yr) <= 570 ng/mL FEU (<18Yr) Manufacturer studies indicate a D-Dimer value <500 ng/mL FEU has a high negative predictive value for DVT or PE in clinically low risk ambulatory patients. A value ≥500 ng/mL FEU warrants further studies to exclude DVT or PE.		Factor VII Activity	50 – 129%
ERYTHROCYTE SED RATE (ESR)	AGE MALE FEMALE ≤ 13 0-10 0-10 mm/hr 14-50 0-15 0-20 mm/hr >50Y 0-20 0-30 mm/hr		Factor VIII Activity	50 – 150%
Sickle Cell Screen	Negative		Factor IX Activity	65 – 150%
Urine Eosinophil	NONE SEEN		Factor X Activity	77 – 131%
WBC Smear (MICXS), stool	NONE SEEN		Factor XI Activity	65 – 150 %
Viscosity, Serum (ratio)	1.4-1.8		Factor XII Activity	50 – 150%
			Factor XII Activity	50 – 150%
			Factor XII Screen	Stable

COMPLETE BLOOD COUNT - Adult Reference Ranges

For reference ranges for other age groups or gender not specified, go to <https://www.testmenu.com/scripps> and click on Downtime Resources

CBC PARAMETER	UNIT	MALE	FEMALE
WBC	10 ³ /ul	3.40 -11.0	3.40 -11.0
RBC	10 ⁶ /ul	4.46 – 5.85	3.98 -5.25
HGB	g/dl	13.0 – 17.1	11.9 – 15.3
HCT	%	39.8 – 51.5	37.3 - 46.7
MCV	fl	81.0 -100.0	
MCH	pg	26.0 -33.0	
MCHC	g/dl	31.0 -36.0	
RDW-CV	%	11.7 – 14.9	
Platelets	10 ³ /ul	150 - 425	
MPV	10 ³ /ul	9.0 – 12.8	
% Neutrophils	%	38 - 74	
% Lymphocytes	%	16 - 48	
% Monocytes	%	4.9 - 12.5	
% Eosinophils	%	0.4 – 9.5	
% Basophils	%	0.2 – 1.6	
% Band	%	0 - 6	
% Immature Granulocytes (IG)	%	0.0 – 1.2	
NRBC	%	0.0	
Reticulocyte %	%	0.9 – 2.4	
Reticulocyte	10 ⁶ /ul	0.044 – 0.115	
Immature Retic Fraction (IRF) %	%	2.7 - 13.5	

CBC PARAMETER	UNIT	MALE	FEMALE
Ret-He	pg	30.1 – 37.3	
Immature Platelet Fraction (IPF) %	%	0.9 – 9.7	
IPF	10 ³ /ul	2.8 – 19.5	
Absolute Neutrophil Count*	10 ³ /ul	1.5 – 7.4	
Absolute Lymphocyte Count	10 ³ /ul	0.9 – 3.1	
Absolute Monocytes Count	10 ³ /ul	0.26 – 0.87	
Absolute Eosinophils Count	10 ³ /ul	0.03 – 0.51	
Absolute Basophils Count	10 ³ /ul	0.01 – 0.09	
Absolute Band Count	10 ³ /ul	0.0 – 6.0	
Absolute IG Count	10 ³ /ul	0.00 – 0.10	

* To obtain absolute cell count, multiply the WBC count by the % of differentiated cell (ex. Absolute Neutrophil count = WBC count x % neutrophil)

BODY FLUID / URINE TESTS

URINALYSIS	Reference Range	DRUGS OF ABUSE SCREEN – URINE	Reference Range
Clarity	Clear	THC	Negative
Color	Yellow	PCP	Negative
Glucose	Negative (mg/dL)	COCAINE	Negative
Ketones	Negative (mg/dL)	METHAMPHETAMINE	Negative
Blood	Negative	OPIATE	Negative
Protein	Negative	AMPHETAMINE	Negative
Nitrite	Negative	BENZODIAZEPINE	Negative
Specific Gravity	1.005 – 1.030	TCA	Negative
pH	5.0 – 8.5	METHADONE	Negative
Urobilinogen	<2.0 mg/dL	BARBITURATE	Negative
Leukocyte Esterase	Negative	OXYCODONE	Negative
WBC	0 – 2 / HPF		
RBC	0 – 2 / HPF	PREGNANCY SCREEN, Urine	Negative
EPITHELIAL CELLS	none/LPF		
CASTS	none/LPF	Fetal Fibronectin	Negative
MUCUS	none/LPF		
BACTERIA	None/HPF		
CRYSTALS	None/LPF		

SEMEN ANALYSIS	Reference Range	SYNOVIAL FLUID ANALYSIS	Reference Range
*Days of abstinence	2 - 7	Color	Yellow, light yellow, straw, colorless
*Volume	> 1.4 ml	Appearance	Clear
*Appearance	2 - 3 turbidity, no unusual color	Volume	mls
*Liquefaction	Liquefaction < 30 min	Nucleated Cell Count	0-200/mcl
*1 hr progressive motility %	> 31%	RBC Count	<15000/mcl
*Motility	Motility > 4.7 mil/mL	Glucose	None established
*Motile sperm/ejaculate	> 7.1 million /ml	Protein	None established
*pH	7.2-8.0	SEGMENTED CELLS (% Neutrophils)	0-25 %
*Viscosity	Pours drop by drop	Lymphocytes %	None established
*Agglutination	NONE	Mononuclear Cells %	None established
WHO Normal Morphology % Normal	3.9 %	Crystals	No crystals
ABHEAD, SMNOTH, IMFORM	No reference range established		
Germ Cells	< 4.00 million / mL		
Leukocytes	0 - 5 / HPF	* Semen analysis Part I not performed at SML Sorrento Mesa Performing labs: SML Torrey Pines, Rancho Bernardo or Jefferson	
Sperm Count	>14.9 million /ml		
Post Vasectomy? Y / N			