

COMPREHENSIVE METABOLIC PANEL

TEST	REFERENCE RANGE	CRITICAL VALUE	TEST	REFERENCE RANGE	CRITICAL VALUE
<b>Sodium (Na)</b>	136 – 146 mmol/L	Adults <120 or > 160 mmol/L Newborn (< = 28 days) 150 mmol/L	<b>Alkaline Phosphatase (ALKP)</b>	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	
<b>Potassium (K)</b>	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	<b>Anion Gap, calculated (AGAP)+</b>	6-14 mmol/L	
<b>Chloride (Cl)</b>	98 -107 mmol/L		<b>Osmolality, calculated (OSMOC)+</b>	280 – 305 mOs/Kg H2O	
<b>Calcium (Ca)</b>	8.4 - 10.3 mg/dL	< 7.0 > 12.0 mg/dL	<b>Glomerular Filtration Rate (GFR)+ Non-African GFR African+</b>	Any result calculated greater than 60 is reported >60 mL/min/1.73m2 MDRD calculation Not reported for <18 years old	
<b>Blood Urea Nitrogen (BUN)</b>	7 – 21 mg/dL		<b>Cholesterol (CHOL)</b>	Risk Factor Guidelines: Desirable < 200 mg/dL Borderline High 200-239 mg/dL mg/dL High >239 mg/dL	
<b>Glucose (Glu)</b>	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	<b>Triglyceride (TRIG)</b>	Normal < 150 mg/dL Borderline high 150-199 mg/dL High 200-499 mg/dL Very high >499 mg/dL	
<b>Carbon dioxide (CO2)</b>	22 – 32 mmol/L	< 10 mmol/L > 40 mmol/L	<b>HDL</b>	Male 30-70 mg/dL Female 30-85 mg/dL Low risk <40mg/dL High risk >59 mg/dL	
<b>Albumin (ALB)</b>	3.3 - 5.0 g/dL		<b>LDL, Calculated (LDLC)+</b> Will not calculate if Triglyceride is >400 mg/dl. Perform 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	
<b>Alanine Aminotransferase (ALT)</b>	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		<b>LDL, Direct (LIPD)</b>	<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	
<b>Creatinine (CRE)</b>	F: 0.5 – 1.0 mg/dl M: 0.7 - 1.3 mg/dl		<b>Total Protein (TP)</b>	6.3 – 8.2 g/dL	
<b>Aspartate Aminotransferase (AST)</b>	Adults > 19 years 15 – 37 U/L F M 0- 14 days 15-185 15-185 15 days <1yr 15-73 15-73 1- <7 yrs 15-46 15-46 7- <12 yrs 15-37 15-37 12- <19 yrs 15-25 15-36		<b>Total Bilirubin (TBIL)</b>	0.1 – 1.2 mg/dL	Newborn < 28 days old

+ During downtime, calculate using the Excel spreadsheet available on <https://www.testmenu.com/scripps> under Downtime Resources

## CHEMISTRY

TEST	REFERENCE RANGE	CRITICAL VALUE	TEST	REFERENCE RANGE	CRITICAL VALUE
Alpha 1 antitrypsin (A1AT)	90 – 200 mg/dL		Iron	Males: 65 - 175 mcg/dL Females: 50 - 170 mcg/dL	
Ammonia (AMMO)	11-32 umol/L	Newborn < 28 days old > 100 mcumol/L	Immunoglobulin A (IGA)	70 – 400 mg/dL	
Amylase (AMY)	30 – 110 U/L		Immunoglobulin G (IGG)	700 – 1600 mg/dL	
Antistreptolysin O (ASO)	0 - 408 IU/mL		Immunoglobulin M (IGM)	40 – 230 mg/dL	
Apolipoprotein B (APOB)	M: 55-140 mg/dL F: 55 - 125 mg/dL		Iron Binding Capacity Calculated (TIBC)+	250-450 mcg/dL	
Beta 2 Microglobulin (BMG)	1.0 - 1.7 mg/L				
Bilirubin, Direct (DBIL)	0.0-0.30 mg/dL	>15 mg/dL	Iron Saturation, Calculated+	20-50 %	
Bilirubin, Total (TBIL)	0.1 – 1.2 mg/dL	Newborn < 28 days old	Lactate Dehydrogenase (LDH)	M: 87-241 U/L F: 84 - 246 U/L	
C-Reactive Protein (CRP)	<10mg/L		Lactic Acid	0.4 – 2.0 mmol/L	> = 4.0 mmol/L
C-Reactive Protein, High sensitivity (hsCRP)	<3.0 mg/L CRP-hs results may be used to assign risk as follows: 3.0 mg/L highest tertile, highest risk.		Lipase (LIP)	73 – 393 U/L	
C3 Complement	90 - 180 mg/dL		Magnesium (MG)	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
C4 Complement	10 - 40 mg/dL		NT- Pro BNP (PBNP)	75 YRS: < 450 pg/mL	
Ceruloplasmin (CERU)	15 - 41 mg/dL		Phosphorus (PHOS)	2.5 – 4.8 mg/dL	< 1.1 mg/dL
CKMB	0.5 – 3.6 ng/mL		Prealbumin (PREAL)	20.0 – 40.0 mg/dL	
Creatine Kinase Total (CKI)	F: 26-192 U/L M: 39-308 U/L		Rheumatoid Factor (RF)	< 15 IU/mL	
Ferritin (FERR)	Males 26.0 – 388.0 ng/mL Females 8.0 – 252.0 ng/mL		Transferrin (TRF)	200 - 360 mg/dL	
Folate (FOL)	3.1-17.5 ng/mL		Troponin (cTNI)	< 0.046 ng/mL	> = 0.100 ng/mL
Gamma Glutamyl Transferase (GGT)	F: 5-55 U/L M: 15-85 U/L		Uric Acid (URCA)	Male 3.5 – 7.2 mg/dL Female 2.6 – 6.0 mg/dL	
Haptoglobin (HAPT)	30 – 200 mg/dL		Uric Acid Rasburicase study (RASBUR)	Male 3.5 – 7.2 mg/dL Female 2.6 – 6.0 mg/dL	
Homocysteine (HCY)	<60 years: 5 - 15 umol/L >60 years: 5 - 20 umol/L				

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## ENDOCRINOLOGY

TEST	REFERENCE RANGE	TEST	REFERENCE RANGE
Anti-Thyroglobulin (aTG)	<61 U/mL	Intact Parathyroid Hormone (IPTH)	18.5-88.0 pg/mL Serum values Assay limitations listed in <a href="https://www.testmenu.com/scripps">https://www.testmenu.com/scripps</a>
Beta-HCG, quantitative (HCG) This Quantitative hCG assay is not FDA approved for use as a tumor marker	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	Insulin (INS)	6 - 27 uIU/mL

TEST	REFERENCE RANGE	TEST	REFERENCE RANGE
<b>Cortisol, Random (COR)</b>	Before 10am (CORTAM) 3.7-19.4 mcg/dL  After 4pm (CORTPM) 2.9-17.3 mcg/dL	<b>Luteinizing Hormone (LH)</b>	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
<b>Cortisol, AM (COR)</b>	Before 10am (CORTAM) 3.7-19.4 mcg/dL  After 4pm (CORTPM) 2.9-17.3 mcg/dL	<b>Progesterone (PRGE)</b>	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 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.
<b>Cortisol, PM (COR)</b>	Before 10am (CORTAM) 3.7-19.4 mcg/dL After 4pm (CORTPM) 2.9-17.3 mcg/dL	<b>Prolactin (PRL)</b>	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
<b>Cortisol, Baseline (COR)</b>	Baseline: >5.0 mcg/dL	<b>Sex Hormone Binding Globulin (SBG)</b>	M: 13 – 71 nmol/L F: 18 -114 nmol/L
<b>Cortisol, Post Cortrosyn (COR) CS30M CS45M CS60M</b>	After Cortrosyn: >17 mcg/dL	<b>T3, total</b>	60-181 ng/dL
<b>Cortisol, Post Dex (COR)</b>	<5 mcg/dL	<b>T4, total</b>	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 T4 values in newborns can be significantly higher than the adult range of 4.7-13.3 mcg/dL  Critical Value: Newborn < 28 days < 5.0 mcg/dl >20.0 mcg/dl
<b>Cortisol, Post Stimulation (COR)</b>	After Cortrosyn: >18 mcg/dL	<b>Thyroglobulin (TG)</b>	0.0 - 55.0 ng/mL
<b>C-Peptide (PEP)</b>	0.9 - 7.1 ng/mL	<b>Thyroid Stimulating Hormone (TSH)</b>	0.358 – 3.800 uIU/mL  Critical Value: Newborn < 28 days < 0.1 uIU/mL > 10.0 uIU/mL
<b>Dehydroepiandrosterone Sulfate/DHEA Sulfate (DHS)</b>	<b>Males:</b> 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 <b>Females:</b> 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	<b>Thyroxine, Free (FT4)</b>	0.76 – 1.46 ng/mL
<b>Estradiol (eE2)</b>	Males <39.0 pg/mL Females: Category/Phase Reference Range (pg/mL) Menstruating Females (by day in cycle relative to LH peak)	<b>Triiodothyronine, Free (FT3)</b>	2.18 – 3.98 pg/mL

TEST	REFERENCE RANGE	TEST	REFERENCE RANGE
	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.		
<b>Follicle Stimulating Hormone (FSH)</b>	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	<b>Testosterone (TESTO)</b>	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
<b>Gestational- Glucose Screen, Pregnancy, 50 gm/ One-Hour Gestational Screen</b>	<140 mg/dL		
<b>Gestational- Glucose Tolerance Test, Pregnancy, 100gm/ Gestational Glucose Tolerance Test</b>	Fasting: <95 mg/dL 1 hour: <180 mg/dL 2 hour: < 155 mg/dL 3 hour: < 140 mg/dL		
<b>Glucose, 2-hour Post Prandial/ Glucose Tolerance Test (Non-Gestational) 75 gm</b>	<140 mg/dL		

## HEPATITIS TESTING PERFORMED ON SIEMENS ADVIA CENTAUR

TEST	REFERENCE RANGE	TEST	REFERENCE RANGE
<b>Hepatitis B surface antigen (HBSII)</b>	Non-reactive	<b>Hepatitis B core Ab total (HBcT)</b>	Non-reactive
<b>Hepatitis B surface antigen confirmatory (CONF)</b>	Negative	<b>Hepatitis C antibody (aHCV)</b>	Non-reactive
<b>Hepatitis B surface antibody (aHBs2)</b>	<10.0 mIU/mL Non-Immune to HBV Infection >9.9 mIU/mL Immune to HBV infection	<b>Hepatitis A Ab total (HAVT)</b>	Non-reactive
<b>Hepatitis B core IgM antibody (aHBCM)</b>	Non-reactive	<b>Hepatitis A IgM Antibody (aHAVM)</b>	Non-reactive

## IMMUNOASSAYS PERFORMED ON SIEMENS ADVIA CENTAUR

TEST	REFERENCE RANGE	TEST	REFERENCE RANGE
<b>Anti-thyroid-Peroxidase (aTPO)</b>	<60.1 U/mL	<b>Cyclic Citrullinated Peptide (ACCP)</b>	0.0 – 4.99 U/mL
<b>Alpha-fetoprotein (AFP)</b>	0-15 ng/mL	<b>Intact Parathyroid Hormone (IPTH)</b>	18.5-88.0 pg/mL Serum values Assay limitations listed in <a href="https://www.testmenu.com/scripps">https://www.testmenu.com/scripps</a>
<b>Anti-Thyroglobulin (aTG)</b>	<61 U/mL	<b>Prostate Specific Ag (PSA)</b>	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
<b>CA 27.29 BR assay (BR)</b>	< 38.6 U/mL	<b>Rubella IGG (RubG)</b>	≤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
<b>Carcinoembryonic Antigen (CEA)</b>	<2.5 ng/mL (adult non-smoker) <5.0 mg/mL (adult smoker)	<b>Syphilis antibody (SYPH)</b>	Non-Reactive
<b>Cancer Antigen 125 (CA125)</b>	0-35 U/mL	<b>Vitamin B12 (VB12)</b>	211-911 pg/mL
<b>Cancer Antigen 19-9 (CA 19-9)</b>	2 - 37 IU/mL	<b>Vitamin D (VitD)</b>	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

## IMMUNOSUPPRESSANT DRUGS AND OTHER TESTS

TEST	REFERENCE RANGE	TEST	REFERENCE RANGE
Platform: Abbott Architect i1000sr-i2000sr			
<b>Cyclosporine (CYCLO)</b> Methodology: Chemiluminescent microparticle immunoassay (CMIA)	Patient assessment required	<b>Fecal occult blood (FOB)</b>	Negative
<b>Mycophenolic Acid (MPA)</b> Methodology: Particle enhanced turbidimetric inhibition immunoassay (PETINIA)	Patient assessment required	<b>Hemoglobin A1C (Glycated Hemoglobin)</b>	Non-diabetic <6.5 % of total hemoglobin Pre-diabetic 5.7 – 6.4 % of total hemoglobin Diabetic > = 6.5 % of total hemoglobin
<b>Sirolimus (SIRO)</b> Methodology: Chemiluminescent microparticle immunoassay (CMIA)	Patient assessment required	<b>HIV Ag/Ab Architect Combo</b>	Non-reactive
<b>Tacrolimus (TACRO)</b> Methodology: Chemiluminescent microparticle immunoassay (CMIA)	Patient assessment required	<b>SARS Cov-2 IgG Antibody Method: Abbott Architect</b>	Negative

## THERAPEUTIC DRUG MONITORING

TEST	REFERENCE RANGE	CRITICAL VALUE	TEST	REFERENCE RANGE	CRITICAL VALUE
<b>Carbamazepine (CARB)</b>	4.0 - 12.0 mcg/mL	>12.0 mcg/mL	<b>Tobramycin, Random (TOBRA)</b>	No Reference Range	
<b>Digoxin (DIG)</b>	< 1.0 ng/mL (therapeutic range)	>2.5 ng/mL	<b>Tobramycin, Trough</b>	0.0-1.9 mg/mL	> 3 mg/mL Newborn > 2.5 mg/mL
<b>Lithium (LI)</b>	0.6 – 1.2 mmol/L	> 1.4 mmol/L	<b>Tobramycin, Peak</b>	4.0-10.0 mg/mL	> 12 mg/mL Newborn > 15 mg/mL
<b>Gentamicin, Random (GENT)</b>	No Reference Range		<b>Valproic Acid (VALP)</b>	50-100 mcg/mL	> 150 mcg/mL
<b>Gentamicin, Trough</b>	0.0-1.9 mcg/mL	> 3 mcg/mL Newborn > 2.5 mcg/mL	<b>Vancomycin, Random (VANC)</b>	No Reference Range	
<b>Gentamicin, Peak</b>	4.0-10.0 mcg/mL	> 12 mcg/mL Newborn > 15 mcg/mL	<b>Vancomycin, Trough</b>	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
<b>Phenytoin (PHENY)</b>	10 -20 mcg/mL	> 30 mcg/mL Newborn > 25 mcg/mL	<b>Vancomycin, Peak</b>	25.0-40.0 mcg/mL	Adults > 50 mcg/mL Newborn > 45 mcg/mL
<b>Theophylline (THEO)</b>	10-20 mcg/mL	> 25 mcg/mL			

## URINE CHEMISTRY TESTS

TEST	REFERENCE RANGE	TEST	REFERENCE RANGE
<b>Urine Amylase (UAMY)</b>	Random: No established range 24 hours: No established range	<b>Urine Microalbumin 24 hrs (MALB) +</b>	Microalbumin Quant 0 - 20 mg/24hr Microalb/Creat Ratio 0 - 30 mg/24hr
<b>Urine Calcium (UCA)</b>	Random: No established range 24 hours: 0-300 mg/24 hr	<b>Urine Phosphorus (UPHOS)</b>	Random: No established range 24 hours: 0.4-1.3 g/24hr
<b>Urine Creatinine (UCRE)</b>	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	<b>Urine Potassium (UK)+</b>	Random: No established range 24 hours: 25-125 mmol/24 hr
<b>Creatinine Clearance 24hrs +</b>	Male: 97 -137 mL/min Female: 88- 128 mL/min	<b>Urine Protein Creatinine Ratio, Random and Timed Urine (PCRT) +</b>	Random: 0-200 mg/g 24 hours: 0-200 mg/24hr
<b>Urine Chloride (UCL)</b>	Random: No established range 24 hours: 110-250 mmol/L/24hr	<b>Urine Sodium (UNA)</b>	Random: No established range 24 hours: 40-220 mmol/L/24hr
<b>Urine Glucose + (UGLU)</b>	Random: No established range 24 hours: No established range	<b>Urine Total Protein (UFCP)</b>	Random: 0 - 11 mg/dL 24 hours: 0 - 149 mg/24hr
<b>Urine Magnesium (UMG)</b>	Random: No established range 24 hours: No established range	<b>Urine Urea (UUREA)</b>	Random: No established range 24 hours: No established range
<b>Urine Microalbumin Random (UMAR)+</b>	Microalbumin Quant. 0 - 20 mg/L Microalb/Creat. Ratio 0 - 30 mg/g	<b>Urine Uric Acid (UURIC)</b>	Random: No established range 24 hours: 250 - 750 mg/24hr

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## ALLERGENS

TEST	REFERENCE RANGE	TEST	REFERENCE RANGE
<b>SPE (Allergy)</b> <b>Common Aeroallergen Panel</b> <b>Common Food Allergen Panel</b> <b>Additional Pollen Panel</b>	Class kU/L Allergen Reactivity	<b>Immunoglobulin, Total IgE (TIE)</b>	<88 IU/mL
	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			

CODE	ALLERGEN	CODE	ALLERGEN	CODE	ALLERGEN	CODE	ALLERGEN
<b>D1</b>	Dermatophagoides pteronyssinus	<b>F27</b>	Beef	<b>G5</b>	Rye (perennial)	<b>T19</b>	Acacia
<b>D2</b>	Dermatophagoides farinae	<b>F36</b>	Coconut	<b>G10</b>	Johnson grass	<b>T20</b>	Mesquite
<b>E1</b>	Cat dander-epithelium	<b>F40</b>	Tuna	<b>I6</b>	Cockroach	<b>T70</b>	Mulberry
<b>E2</b>	Dog epithelium	<b>F41</b>	Salmon	<b>K82</b>	Latex	<b>T72</b>	Palm
<b>F2</b>	Milk	<b>F44</b>	Strawberry	<b>M1</b>	Penicillium notatum	<b>T401</b>	Pepper tree
<b>F3</b>	Cod	<b>F79</b>	Gluten	<b>M2</b>	Cladosporium herbarum	<b>W2</b>	Ragweed (Western)
<b>F4</b>	Wheat	<b>F80</b>	Lobster	<b>M3</b>	Aspergillus fumigatus	<b>W6</b>	Mugwort (weed)
<b>F8</b>	Corn	<b>F83</b>	Chicken	<b>M6</b>	Alternaria tenuis	<b>W9</b>	English plantain
<b>F9</b>	Rice	<b>F201</b>	Pecan Nut	<b>T1</b>	Maple	<b>W10</b>	Lambs Quarter
<b>F10</b>	Sesame seed	<b>F202</b>	Cashew	<b>T3</b>	Birch	<b>W11</b>	Russian thistle
<b>F13</b>	Peanut	<b>F203</b>	Pistachio	<b>T6</b>	Mountain Cedar	<b>W13</b>	Cocklebur
<b>F14</b>	Soy	<b>F207</b>	Clam	<b>T7</b>	Oak	<b>W15</b>	Scalee
<b>F17</b>	Hazelnut (Filbert)	<b>F245</b>	Egg (whole)	<b>T8</b>	Elm	<b>W17</b>	Kochia
<b>F18</b>	Brazil Nut	<b>F253</b>	Pine Nut	<b>T9</b>	Olive tree	<b>W18</b>	Sorrel
<b>F20</b>	Almond	<b>F256</b>	Black Walnut	<b>T10</b>	Walnut tree	<b>W43</b>	Sagebrush (common)
<b>F23</b>	Crab	<b>F290</b>	Oyster	<b>T11</b>	Sycamore Maple	<b>W82</b>	Careless weed
<b>F24</b>	Shrimp	<b>F338</b>	Scallop	<b>T14</b>	Cottonwood		
<b>F26</b>	Pork	<b>G2</b>	Bermuda grass	<b>T18</b>	Eucalyptus		

IMMUNOLOGY

TEST	REFERENCE RANGE	TEST	REFERENCE RANGE
<b>LYM</b> Borrelia burgdorferi (Lyme), IgG/IgM	=/<0.90 OD Ratio      Negative 0.91 to 1.09 OD Ratio      Equivocal =>1.10 OD Ratio      Positive	<b>Rapid Plasma Reagin</b> <b>RPR/ RPRT /RPRM</b>	Non-Reactive
<b>ACLP</b>  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	<b>Free light chain/ratio</b> 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
<b>CMVG</b> Cytomegalovirus, IgG	=/<0.90 OD Ratio      Negative 0.91 to 1.09 OD Ratio      Equivocal =>1.10 OD Ratio      Positive	<b>Cold agglutinin</b> Titer at 4°C, 22°C, 37°C	Normal = titer of 1:32 or less  Elevated = 1:64 or greater
<b>CMVM</b> Cytomegalovirus, IgM	=/<0.90 OD Ratio      Negative 0.91 to 1.09 OD Ratio      Equivocal =>1.10 OD Ratio      Positive	<b>Cryoglobulin</b>	Negative
<b>EBVPL</b> 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	<b>HIV GEENIUS</b> HIV1-Ab Supplemental HIV2-Ab Supplemental	Non-Reactive  Non-Reactive
<b>HSV1GG</b>  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	<b>ANA EIA</b> <b>Anti-Smith (SM) Ab</b> <b>Sjogren's AB</b> <b>SSA AB</b> <b>SSB AB</b> <b>Scleroderma Ab SCL-70</b>	Negative
<b>HSV2GG</b>  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	<b>HEP-2 PATTERN</b>	
<b>RUBO</b>  Measles (Rubeola) IgG	=/<0.90 OD Ratio      Negative 0.91 to 1.09 OD Ratio      Equivocal =>1.10 OD Ratio      Positive	<b>DNA</b>	Negative at 1:10
<b>MUMPSG</b>  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.	<b>Liver Kidney Microsomal AB</b> <b>(LKMA)</b>	Negative 1:20
<b>VRCZ</b>  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.	<b>Antimitochondrial AB (AMITA)</b>	Negative at 1:20
<b>QuantiFERON (QTB)</b> 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	<b>Anti-smooth muscle AB (ASMA)</b>	Negative at 1:20

**HEMATOLOGY/COAGULATION**

TEST	REFERENCE RANGE	CRITICAL VALUE	TEST	REFERENCE RANGE
<b>PROTHROMBIN TIME (Seconds)</b>	10.0-13.1 (>= 18Yr) 8.8-12.5 (6 mos to < 18 yr) 8.8-14.7 (0-6 mos)	N/A (>= 18Yr) >17sec (6 mos to < 18 yr) >19 sec (0-6 mos)	<b>Activated Protein C (FV Leiden)</b>	Greater than 2.2 ratio
<b>INR</b>	Therapeutic: 2.0 – 3.0 conventional anticoagulation 2.5-3.5 intensive anticoagulation	>= 4.0 (>= 18Yr) > 4.0 (< 18 yr)	<b>Anti-thrombin</b>	83 – 128%
<b>ACTIVATED PTT (Seconds)</b>	26-38 (>= 18Yr) 25-39 (<18yr) Therapeutic: 53-87 seconds	>=90 sec (>= 18Yr) >45 sec (6mo to < 18 yr) >49 sec (0-6 mos)	<b>Protein C Activity</b>	70 – 140%
<b>FIBRINOGEN (mg/dl)</b>	187-416 mg / dL (>= 18Yr) 150-400 mg/dL (<18yr)	<100	<b>Factor II Activity</b>	79 – 131%
<b>PLATELET FUNCTION ASSAY (PFA)</b>	EPI: 73-190 seconds ADP: 65-118 seconds		<b>Factor V Activity</b>	62 – 139%
<b>D-DIMER (DDQ)</b>	< 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.		<b>Factor VII Activity</b>	50 – 129%
<b>ERYTHROCYTE SED RATE (ESR)</b>	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		<b>Factor VIII Activity</b>	50 – 150%
<b>Sickle Cell Screen</b>	Negative		<b>Factor IX Activity</b>	65 – 150%
<b>Urine Eosinophil</b>	NONE SEEN		<b>Factor X Activity</b>	77 – 131%
<b>WBC Smear (MICXS), stool</b>	NONE SEEN		<b>Factor XI Activity</b>	65 – 150 %
<b>Viscosity, Serum (ratio)</b>	1.4-1.8		<b>Factor XII Activity</b>	50 – 150%
			<b>Factor XII Activity</b>	50 – 150%
			<b>Factor XIII Screen</b>	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
<b>WBC</b>	10 <sup>3</sup> /ul	3.40 -11.0	3.40 -11.0
<b>RBC</b>	10 <sup>6</sup> /ul	4.46 – 5.85	3.98 -5.25
<b>HGB</b>	g/dl	13.0 – 17.1	11.9 – 15.3
<b>HCT</b>	%	39.8 – 51.5	37.3 - 46.7
<b>MCV</b>	fl	81.0 -100.0	
<b>MCH</b>	pg	26.0 -33.0	
<b>MCHC</b>	g/dl	31.0 -36.0	
<b>RDW-CV</b>	%	11.7 – 14.9	
<b>Platelets</b>	10 <sup>3</sup> /ul	150 - 425	
<b>MPV</b>	10 <sup>3</sup> /ul	9.0 – 12.8	
<b>% Neutrophils</b>	%	38 - 74	
<b>% Lymphocytes</b>	%	16 - 48	
<b>% Monocytes</b>	%	4.9 - 12.5	
<b>% Eosinophils</b>	%	0.4 – 9.5	
<b>% Basophils</b>	%	0.2 – 1.6	
<b>% Band</b>	%	0 - 6	
<b>% Immature Granulocytes (IG)</b>	%	0.0 – 1.2	
<b>NRBC</b>	%	0.0	
<b>Reticulocyte %</b>	%	0.9 – 2.4	
<b>Reticulocyte</b>	10 <sup>6</sup> /ul	0.044 – 0.115	
<b>Immature Retic Fraction (IRF) %</b>	%	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 <sup>3</sup> /ul	2.8 – 19.5	
Absolute Neutrophil Count*	10 <sup>3</sup> /ul	1.5 – 7.4	
Absolute Lymphocyte Count*	10 <sup>3</sup> /ul	0.9 – 3.1	
Absolute Monocytes Count*	10 <sup>3</sup> /ul	0.26 – 0.87	
Absolute Eosinophils Count*	10 <sup>3</sup> /ul	0.03 - 0.51	
Absolute Basophils Count*	10 <sup>3</sup> /ul	0.01 – 0.09	
Absolute Band Count*	10 <sup>3</sup> /ul	0.0 – 6.0	
Absolute IG Count*	10 <sup>3</sup> /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	URINE TOXICOLOGY DRUGS OF ABUSE SCREEN	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, Amniotic fluid	Negative
MUCUS	None/LPF		
BACTERIA	None/HPF		
CRYSTALS	None/LPF		

SEMEN ANALYSIS	Reference Range	SYNOVIAL FLUID ANALYSIS	Reference Range
Post-vasectomy? Y/N		Color	Yellow, light yellow, straw, colorless
*Days of abstinence	2 - 7	Appearance	Clear
*Volume	> 1.4 ml	Volume	mls
*Appearance	2 - 3 turbidity, no unusual color	Nucleated Cell Count	0-200/mcl
*Liquefaction	Liquefaction < or = 30 min	RBC Count	<15000/mcl
*1 hr progressive motility %	> 31%	Glucose	None established
*Motility	Motility > 4.7 mil/mL	Protein	None established
*Motile sperm/ejaculate	> 7.1 million /ml	Segmented Cells (% Neutrophils)	0-25 %
*pH	7.2-8.0	Lymphocytes %	None established
*Viscosity	Pours drop by drop	Mononuclear Cells %	None established
*Agglutination	NONE	Crystals	No crystals
WHO Normal Morphology % Normal	3.9 %		
ABHEAD, SMNOTH, IMFORM	No reference range established	* Semen analysis Part I performing labs	
Germ Cells	< 4.00 million / mL	SML Jefferson #05D0691203 205 Vista Way Oceanside, CA 92054 Keith E. Thompson, MD	
Leukocytes	0 - 5 / HPF	SML Rancho Bernardo #05D0571647 15004 Innovation Drive San Diego, CA 92128 Beth Palla, MD	
Sperm Count	>14.9 million /ml	SML Torrey Pines #05D0665463 10666 N. Torrey Pines Road La Jolla, CA 92037 Emma Z. Du, MD	