

2005 –2006 MANUAL

***PATHOLOGY & LABORATORY
MEDICINE SERVICE***

***VA NORTH TEXAS
HEALTH CARE SYSTEM***

***updated
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TEST	Department	Specimen / Container	Special Remarks	Reference Range	Units	TAT
ABO/RH TYPING	Transfusion Medicine	Blood/LLT	May be ordered in VISTA/CPRS			1-8 hr
ACETAMINOPHEN (TYLENOL)	Chemistry	Blood/RT	Method: ENZYME IMMUNOASSAY	Therapeutic: 5-20 Toxic: ≥200	mcg/mL	<1 hr (Med Emerg)
ACETONE (KETONE)	Chemistry	Blood/SST or RT	Method: ACETEST	Negative		4 hr
ACID PHOSPHATASE TOTAL	Client Services	Cervical washing fluid	Referral Test. Must be received on ice within 1 hour of collection.			
AFB CULTURE	Microbiology	Sputum collection	Early morning sputum preferred; 5-10 mL volume required. One (1) specimen/day accepted.	No AFB isolated		8 wks
AFB SMEAR	Microbiology	Sputum collection	Early morning sputum preferred; 5-10 mL volume required. One (1) specimen/day accepted.	No AFB observed		24 hr
ALBUMIN (also see MICROALBUMIN)	Chemistry	Blood/SST or RT Urine - See PROTEIN ELECTROPHORESIS	Method: DYE BINDING BROMOCRESOL	3.2-5.2	g/dL	4 hr
ALCOHOL- See ETHANOL						
ALKALINE PHOSPHATASE	Chemistry	Blood/RT, SST, or LGT	Method: P-NITROPHENYL PHOSPHATE	40-129	IU/L	4 hr
ALPHA-FETOPROTEIN (AFP)	Chemistry	Blood/RT or SST	Method: ELECTROCHEMILUMINESCENCE Test run Tuesday and Thursday.	0.0-7.2	ng/mL	3-5 days
ALPHA-1 ANTITRYPSIN (AAT)	Client Services	Blood/RT	Referral Test			
ALT (SGPT)	Chemistry	Blood/RT, SST, or LGT	Method: IFCC	5-43	U/L	4 hr
AMIKACIN	Client Services	Blood/RT	Referral Test. See Quick Guide at end of this Index. PEAK: collect sample 30 minutes after IV infusion. TROUGH: collect sample 0-30 minutes prior to next dose.			4 hr
AMINOPHYLLINE (See THEOPHYLLINE)						
AMIODARONE (CORDARONE) PANEL (Includes metabolite DESETHYLAMIODARONE)	Client Services	Blood/RT	Referral Test.			

TEST	Department	Specimen / Container	Special Remarks	Reference Range	Units	TAT
AMMONIA (NH ₃)	Chemistry	Blood/SLT	METHOD: GLDH In-house: place sample on ice, deliver to lab immediately Outside Clients: keep plasma frozen. HEMOLYZED specimens are unacceptable for analysis.	10-47	µmo1/L	<1 hr
AMPHETAMINES	Toxicology	Urine/Tox cup	See DRUG SCREEN	Negative		8 hr
AMYLASE	Chemistry	Blood/SST, or RT, or PST. Urine-24 hr or timed specimen	Method: AMYLASE/EPS 24-hr urine sample must be refrigerated during collection period.	Serum: 28-100 Urine: 1-18	U/L U/hour	4 hr
ANA (ANTI-NUCLEAR AB)	Serology	Blood/RT	Method: IMMUNOFLUORESCENCE Pattern and titer reported on NEW positives only. Test run Tuesday and Thursday.	Negative (<1:160)	Titer	4 hr
ANGIOTENSIN CONVERTING ENZYME (ACE-1)	Client Services	Blood/RT	Referral Test.			
ANTIBODY SCREEN	Transfusion Medicine	Blood/LLT		No unexpected RBC alloantibodies		<1 hr
ANTI-CARDIOLIPIN ANTIBODY	Client Services	Blood/LRT	Referral Test. Place on ice and deliver immediately to Client Services			
ANTIMONY	Trace Metal Toxicology	Blood/DBT Urine/TM-free cup	Method: ICP/MS	<10	mcg/L	2 days
ANTITHROMBIN III (AT-III)	Client Services	Blood/CBT	Referral Test. Place on ice and deliver immediately to Client Services			
ARTERIAL BLOOD GASES PULM. LAB (A739)	Pulmonary		Please contact Client Services.			
ASO (ANTI-STREPTOLYSIN O)	Client Services	Blood/RT	Referral Test			
ASPERGILLUS ANTIBODY	Serology	Blood/RT	Method: IMMUNODIFFUSION 1)Test run Mon., Tues., & Wed. 2)Aliquot sent to reference lab for complement fixation titer	Negative		1) 2 days 2) 2 weeks
ARSENIC	Trace Metal Toxicology	Urine/TM-free cup	Method: ICP/MS Avoid seafood consumption for one week prior to sample collection.	<20	mcg/L	2 days

TEST	Department	Specimen / Container	Special Remarks	Reference Range	Units	TAT
AST (SGOT)	Chemistry	Blood/SST, RT, or LGT	Method: IFCC	Male: 0-37 Female: 0-31	U/L	4 hr
BASIC METABOLIC PANEL	Chemistry	Blood/SST, or LGT	Panel includes: Sodium (Na), Potassium (K), Chloride (Cl), Carbon Dioxide (CO ₂), Glucose, Creatinine, Blood Urea Nitrogen (BUN), and Calcium (Ca)	Na: 133-145 K: 3.3-5.1 Cl: 96-108 CO ₂ : 22-30 Glucose: 70-105 Creatinine: Male: 0.5-1.2 Female: 0.4-1.1 BUN: 6-20 Ca: 8.4-10.5	mEq/L mEq/L mEq/L mg/dL mg/dL mg/dL mg/dL	4 hr
B12/FOLATE PANEL	Chemistry	Blood/RT, SST, or LGT	Method: ELECTROCHEMILUMINESCENCE Test run Monday through Friday	B12: 243-894 Indeterminate: 175-242; Deficient: <175 FOLATE: 4.2-19.9 Indeterminate: 2.2-4.1 Deficient: <2.2	pg/mL ng/mL	1-2 days
BENCE JONES PROTEIN	Chemistry	Urine – TEK tube or 24-hour	Method: ELECTROPHORESIS	Negative		3-5 days
BENZODIAZEPINES SCREEN	Toxicology	Urine – TOX cup	See 'Drug Screen'	Negative		4 hr
BERYLLIUM	Trace Metal Toxicology	Blood/DBT Urine/TM-free cup	Method: ICP/MS	Blood: <1.0 Urine: <1.0 in non-smokers; #2.0 in smokers	mcg/L	2 days
BETA 2 MICROGLOBULIN (SERUM)	Chemistry	Blood/RT or SST	Method: IMMUNOTURBIDOMETRIC Run Monday and Thursday	0.8-2.2	mg/L	4 hr
BILIRUBIN, DIRECT	Chemistry	Blood/SST, RT, or LGT	Method: JENDRASSIK-GROF Protect sample from light.	0.0-0.3	mg/dL	4 hr
BILIRUBIN, TOTAL (T BIL; TOT. BIL.)	Chemistry	Blood/SST, RT, or LGT	Method: DPD Protect sample from light.	0-1.0	mg/dL	4 hr
BISMUTH	Trace Metal Toxicology	Urine/TM-free cup	Method: ICP/MS	<20	mcg/L	2 days
BLASTOMYCES ANTIBODY	Serology	Blood/RT	Method: IMMUNODIFFUSION 1) Test run Mon., Tues., & Wed. 2) Aliquot sent to reference lab for complement fixation titer	Negative		1) 2 days 2) 2 weeks

TEST	Department	Specimen / Container	Special Remarks	Reference Range	Units	TAT
BLEEDING TIME	Hematology		Pathologist pre-approval required; call Hematology at extension 70686) Testing limited to 8:00 AM – 4:00 PM, Monday through Friday Urgency: Routine	2.3 - 9.5	minutes	1-2 days
BNP (Brain Natriuretic Peptide)	Client Services	EDTA (4 mL)	Method: FLUORESCENCE IMMUNOASSAY Sample must be analyzed within 4 hours of collection.	5 – 100	pg/mL	4 hr
BUN	Chemistry	Blood/SST or LGT Urine/24 hour	Method: UREASE GLDH	Serum/Plasma:6-20 Urine: 6-17	mg/dL mg/24hr	4 hr
C-REACTIVE PROTEIN (CRP) [See hCRP for high-sensitivity CRP]	Chemistry	Blood/SST or RT	Method: IMMUNOTURBIDOMETRIC	<0.5	mg/dL	4 hr
CA 19-9 ANTIGEN (Pancreatic Tumor Antigen)	Client Services	Blood/RT	Referral Test Signed authorization by staff physician required.			
CADMIUM	Trace Metal Toxicology	Blood/DBT Urine/TM-free cup	Method: ICP/MS	Blood: <5.1 Urine: <2.7	mcg/L	2 days
CALCIUM, TOTAL	Chemistry	Blood/SST or LGT Urine	Method: O-CRESOLPHTHALEIN	Serum/Plasma: 8.4 - 10.5 Urine: 100-300	mg/dL mg/24hr	4 hr
CALCIUM, IONIZED	Client Services	Blood/LGT	Method: ISE Blood must be placed on ice and delivered to lab immediately after collection.	1.13-1.32	mMol/L	1-4 hr
CANNABINOIDS SCREEN	Toxicology	Urine/TOX cup	Refer to 'DRUG SCREEN'	Negative		8 hr
CARBAMAZEPINE (Tegretol)	Chemistry	Blood/RT or LGT	Method: CEDIA	Therapeutic Range 4-12	mcg/mL	4 hr
CARBON DIOXIDE (CO2)	Chemistry	Blood/SST or LGT	Method: PEPC ENZYMATIC	22-30	mmol/L	4 hr
CARBOXYHEMOGLOBIN	Client Services	Blood/SLT	Method:	Nonsmokers: <3% Smokers: 1-2 packs/day 4-5% >2 packs/day 8-10%		4 hr
CARCINOEMBRYONIC ANTIGEN (CEA)	Chemistry	Blood/RT, SST, or LGT	Method: ELECTROCHEMILUMINESCENCE Test run Monday thru Friday	0-4.6	ng/mL	1-3 days

TEST	Department	Specimen / Container	Special Remarks	Reference Range	Units	TAT
CATECHOLAMINES (fractionated, epinephrine and norepinephrine)	Client Services	Urine - 24 hr Contact Client Services for container	Referral test Signed authorization by a staff physician required			
CBC/DIFF	Hematology	Blood/SLT	Blood must be mixed gently immediately after collection. CLOTTED or HEMOLYZED specimens are unacceptable.	WBC 4.0–11.0 RBC: •Male: 4.30–5.80 •Female 3.80-5.30 Hemoglobin: •Male: 13.0–17.3 •Female 11.5–15.3 Hematocrit: •Male 38.0–52.0 •Female 34.0-45.0 MCV: 80.0-98.0 MCH: 27.0-34.0 MCHC: 31.5-36.5 RDW-CV 11.0-16.0 PLATELET: 140-400 MPV: 8.0-13.0 DIFFERENTIAL: - Neutrophils: 37.0-80.0% 1.6-7.7 K/cu mm - Bands: 0-9% - Eosinophils: 0.0-6.0% 0.0-0.7 K/cu mm - Basophils: 0.0-2.0% 0.0-0.3 K/cu mm - Monocytes: 1.0-13.0% 0.1-1.0 K/cu mm - Lymphocytes: 20.0-45.0% 1.0-4.5 K/cu mm	K/cu mm M/cu mm g/dL percent fL pg g/dL percent K/cu mm fL	4 hr

TEST	Department	Specimen / Container	Special Remarks	Reference Range	Units	TAT
CD4/CD8 PANEL	Flow Cytometry	Blood/YT	Method: FLOW CYTOMETRY Collect SLT and order CBC/DIFF at same time. Do not collect after 3:00 PM Friday or on weekends/holidays Test run on Wednesday & Friday.	CD4: 30-68% 320-1960/mm ³ CD8: 9-45%; 116-1224/mm ³ HELPER/SUPPRESSOR RATIO: 0.8 – 3.0		BY NOON, next work day
CELL COUNT, FLUID	Hematology	CSF/Black screw top Pleural Fluid/SLT Peritoneal Fluid/SLT Synovial Fluid/SLT Pericardial Fluid /SLT	Method: HEMACYTOMETER Clotted specimens are unacceptable.	<u>Fluid</u> <u>WBC</u> <u>RBC</u> CSF 0-5 0-10 Pleur. <1000 <10,000 Perit <500 <10,000 Synov <200 0 Pericard <1000	#/mm ³	4 hr
CERULOPLASMIN (CER)	Chemistry	Blood/SST or RT	Method: IMMUNOTURBIDOMETRIC Test run Monday and Thursday	20-60	mg/dL	2-4 days
CHLAMYDIA, DNA PROBE (SCREENING TEST)	Serology	Collection kit supplied by Client Services.	GC (<i>N. gonorrhoeae</i>) by DNA probe can be done on same sample if requested . Test done on Monday, Wednesday, and Friday.	Negative		8 hr
CHLORIDE	Chemistry	Blood/SST, RT, or LGT Urine-24 hr	Method: ISE	Serum/plasma: 96-108 Urine: 110-250	mmol/L	4 hr
CHOLESTEROL, TOTAL	Chemistry	Blood/SST, RT, or LGT	Fasting specimen requested. Method: HP ENZYMATIC	100-200 (Refer to Tables 1-4, pp. Y-Z)	mg/dL	4 hr
CHOLINESTERASE, PLASMA	Toxicology	Blood/SLT	Method: BUTYRYLTHIOCHOLINE SUBSTRATE AND ELLMAN REAGENT	Male & Female >40 yrs: 5,300-13,000 Females 16-39 yrs (not pregnant or not taking hormonal contraceptives): 4,260-11,250 Females <40 yrs (pregnant or taking hormonal contraceptives have lower level)	mU/mL	2 days
CHROMIUM	Trace Metal Toxicology	Blood/DBT Urine/TM-free cup	Method: ICP/MS	Blood: <5.1 Urine: <2.0	mcg/L	2 days
CK, TOTAL	Chemistry	Blood/RT, SST, or LGT	Method: NAC	Male: 24-195 Female: 24-170	IU/L	4 hr

TEST	Department	Specimen / Container	Special Remarks	Reference Range	Units	TAT
CK, TOTAL + MB FRACTION (CK-MB)	Chemistry	Blood/RT or SST	Method: ELECTROCHEMILUMINESCENCE 1) Order as CK-TOTAL + MB. 2) CK-MB not performed when TOTAL CK ≤100 IU/L. 3) RELATIVE INDEX (RI) not calculated if CK-MB ≤5.0 ng/mL Run once per shift.	0.0-5.0 [Refer to interpretive chart at end of test menu]	ng/mL	4 hr
CLOSTRIDIUM DIFFICILE TOXIN A+B	Microbiology	Unformed stool/PLP	One (1) specimen per day accepted.	Negative		1 day
COCAINE	Toxicology	Urine / TOX cup	See DRUG SCREEN	Negative		8 hr
COCCIDIOIDES ANTIBODY	Serology	Blood/RT	Method: IMMUNODIFFUSION 1)Test run Mon., Tues., & Wed. 2)Aliquot sent to reference lab for complement fixation titer	Negative		1) 2 days 2) 2 weeks
COMPLEMENT C3	Chemistry	Blood/SST or RT	Method: IMMUNOTURBIDOMETRIC Test run Monday and Thursday	90-180	mg/dL	2-4 days
COMPLEMENT C4	Chemistry	Blood/SST or RT	Method: IMMUNOTURBIDOMETRIC Test run Monday and Thursday	10-40	mg/dL	2-4 days
COMPREHENSIVE METABOLIC PANEL	Chemistry	Blood/SST or LGT	Panel includes: SODIUM (Na), POTASSIUM (K), CHLORIDE (Cl), CO ₂ , GLUCOSE, CREATININE, BLOOD UREA NITROGEN (BUN), CALCIUM (Ca), TOTAL BILIRUBIN (T-BILI), ALKALINE PHOSPHATASE, TOTAL PROTEIN (T-PROT), AST, ALT	Na: 133 - 145 K: 3.3 - 5.1 Cl: 96 - 108 CO ₂ : 22 - 30 Glucose: 70 - 105 Creatinine: - Male: 0.5 – 1.2 - Female: 0.4 – 1.1 BUN: 6 - 20 Calcium: 8.4 - 10.5 T. Bili: 0 – 1.0 Alk Phos 40 – 129 T Protein:5.9–8.4 AST - Male: 0 – 37 - Female: 0 – 31 ALT - Male: 0 – 40 - Female: 0 – 31	mEq/L mEq/L mEq/L mEq/L mg/dL mg/dL mg/dL mg/dL mg/dL mg/dL IU/L g/dL U/L U/L	4 hr
COOMBS, INDIRECT/DIRECT	Transfusion Medicine	Blood/LLT	Order as COOMBS, DIRECT/INDIRECT.	Negative		1 hr

TEST	Department	Specimen / Container	Special Remarks	Reference Range	Units	TAT
CORTISOL	Chemistry	Blood/RT, SST, or LGT	Method: ELECTROCHEMILUMINESCENCE Done on Monday thru Friday; 10:00AM sample cut-off time	A.M.: 6.0-28.0 P.M.: 3.0-16.0	mcg/dL	3-5 days
CREATININE (CREAT)	Chemistry	Blood/SST, RT, or LGT Urine-24 hour	Method: MODIFIED JAFFE'	Serum or Plasma: Male: 0.5-1.2 Female: 0.4-1.1 Urine: Male: 0.8-2.0 Female: 0.6-1.8	mg/dL g/24hr	4 hr
CREATININE – TOXICOLOGY	Toxicology	Urine / TOX cup	Included in URINE ADULTERATION PANEL. Values <20 usually indicate diluted urine.	Abnormal Range: <20	mg/dL	8 hr
CROSSMATCH	Transfusion Medicine	Blood/LLT	Must be accompanied by SF518 Request form.	Compatible		1-8 hr
CRYOGLOBULINS	Chemistry	Blood/RT	Send to the Laboratory in a container of warm water (37°C) immediately after collection.	Negative		3-4 days
CRYPTOCOCCAL ANTIGEN	Immunology	Blood/RT CSF/Black screw top		Negative		4 hr
CRYPTOSPORIDIUM EXAM	Microbiology	Stool	Monday thru Friday only	Negative		1 day
CRYSTALS	Chemistry	Synovial Fluid/RT	Method: POLARIZATION MICROSCOPY Performed immediately upon receipt in Laboratory.	Negative		1-2 hr
CSF VDRL	Serology	CSF/Black screw top		Nonreactive		4 hr
CULTURES (BACTERIAL)	Microbiology		Refer to Microbiology Section, this manual, for specific collection guidelines.			2-7 days
CYANIDE	Client Services	Blood/two(2) SLT	Referral Test.			
CYCLOSPORINE	Client Services	Blood/SLT	Referral Test.			
D-DIMER	Hematology	Blood/CBT	Method: LATEX AGGLUTINATION Tube must be drawn to capacity.	0.01 – 0.55	mcg/mL	4 hr
DIFFERENTIAL COUNT	Hematology	Blood/SLT	See CBC			
DIGOXIN	Chemistry	Blood/RT	Method: CEDIA Sample should be collected 6-8 hours after an ORAL or IV dose.	Therapeutic Range: 0.8-2.0	ng/mL	4 hr
DILANTIN (PHENYTOIN)	Chemistry	Blood/RT	Method: CEDIA	Therapeutic Range: 10-20	mcg/mL	4 hr

TEST	Department	Specimen / Container	Special Remarks	Reference Range	Units	TAT
DIRECT COOMBS (DAT)	Transfusion Medicine	Blood/LLT	Order as COOMBS, DIRECT/INDIRECT	Negative		1 hr
DRUG SCREEN	Toxicology	Urine/ TOX cup	Method: IMMUNOASSAY. Screen includes Amphetamines, Barbiturates, Benzodiazepines, Cannabinoids, Cocaine, Opiates Methadone and Phencyclidine. Confirmation must be REQUESTED. Positive PCP and Amphetamines will be confirmed immediately.	Negative		8 hr
ELECTROLYTES, BLOOD	Chemistry	Blood/SST or LGT	INCLUDES: Na, K, CL, CO ₂ . For Methodology, see individual tests.	See BASIC METABOLIC PANEL for Ref. Ranges		4 hr
ELECTROLYTES, URINE	Chemistry	Urine (24 hour)/ TEK tube	Panel contains: Na, K, Cl (No Reference Range for random urine collection sample)	Na: 40 - 220 K: 25 - 125 Cl: 10 - 250	mmol/24 hr	4 hr
ESR (ERYTHROCYTE SEDIMENTATION RATE) (See SEDIMENTATION RATE)						
ETHANOL (ETOH; ETHYL ALCOHOL,)	Chemistry	Blood/RT or SGRT	Method: OXIDATION Clinical intoxication level = 100 mg/dL (0.1 gm percent) Collect specimen using alcohol-free disinfectant.	None		4 hr
ETHANOL SCREEN	Toxicology	Urine /TOX cup	URINE GLUCOSE test is also performed on all positive alcohol results.	Lower limit is 25	mg/dL	8 hr
FACTOR ASSAYS	Client Services	Blood/two (2) CBT	Referral Test. Place on ice and deliver immediately to Client Services			
FECAL FAT (QUALITATIVE)	Microbiology	Stool/PLP	Monday thru Friday only			
FECAL FAT (QUANTITATIVE)	Client Services	Stool/WLPC	Referral Test. Contact Client Services for special preparation and collection instructions.			
FECAL LEUKOCYTES	Microbiology	Stool/PLP	Done Monday thru Friday			
FERRITIN	Chemistry	Blood/SST or RT	Method: ELECTROCHEMILUMINESCENCE Hemolyzed sample unacceptable Test run Monday thru Friday	Male: 30 - 400 Female: 15 - 150	ng/mL	1-3 days
FERRITIN RBC	Client Services	Blood/LGT	Method: MEIA Collect sample in A.M. DO NOT refrigerate. Deliver to Laboratory immediately after collection.	4-47	ng/rbc	

TEST	Department	Specimen / Container	Special Remarks	Reference Range	Units	TAT
FIBRINOGEN	Hematology	Blood/CBT	Method: MECHANICAL BALL Draw tube to full capacity (a 9:1 blood:anticoagulant ratio must be maintained.)	200 - 633	mg/dL	4 hr
FOLATE, SERUM	Chemistry	Blood/RT	Method: ELECTROCHEMILUMINESCENCE Part of B12/FOLATE PANEL, do not order separately. Hemolyzed sample unacceptable Test run Monday thru Friday.	See B12/FOLATE PANEL		1-2 days
FOLATE, RBC	Client Services	Blood/SLT	Referral Test.			
FREE PHENYTOIN	Client Services	Blood/RT	Referral Test.			
FREE PSA (fPSA/PSA RATIO)	Client Services	Blood/RT, SST	Referral test	Interpretation provided with final report		7 days
FREE THYROXINE INDEX (FTI)	Client Services	Blood/SST or RT	Referral Test.			
FREE THYROXINE (FT4) DIRECT	Chemistry	Blood/SST or RT	Method: ELECTROCHEMILUMINESCENCE Test performed Monday thru Friday	0.80 - 1.79	ng/dL	1-2 days
FSH (FOLLICLE STIMULATING HORMONE)	Chemistry	Blood/RT or SST	Method: ELECTROCHEMILUMINESCENCE Test run Tuesday & Thursday.	Male: 1.5 - 12.4 Females: -Follicular phase 3.5 – 12.5 - Ovulatory phase 4.7 – 21.5 - Luteal phase 1.7 – 7.7 - Post-menopause 25.8 – 134.8	mIU/mL	3-5 days
FUNGAL ANTIBODIES	Serology	Blood/RT	Test run Monday, Tuesday, and Wed.	Negative		48 hr
G-6-PD (SCREEN)	Client Services	Blood/SLT	Referral Test.	Non-deficient		
GAMMA GLOBULIN	Chemistry		See PROTEIN ELECTROPHORESIS			
GAMMA-GTP (GGT, GGTP, GT, or GTP)	Chemistry	Blood/SST, RT, Or LGT	Method: 5-AMINO-2-NITROBENZOATE	Male: 8 - 61 Female: 5 - 36	U/L	4 hr
GASTRIN	Client Services	Blood/RT	Referral Test. Requires FASTING specimen, on ice. Deliver to Laboratory immediately.			

TEST	Department	Specimen / Container	Special Remarks	Reference Range	Units	TAT
GC (GONORRHEA) DNA PROBE (SCREENING TEST)	Serology	Collection kit supplied by Client Svc	CHLAMYDIA by DNA probe can be done on same sample if REQUESTED. Test run Monday, Wednesday, and Friday.	Negative		4 hr
GENTAMICIN	Chemistry	Blood/RT	Method: CEDIA Refer to Quick Guide, end of yellow pages section. Heparin sample cannot be used. Collect TROUGH levels 10-30 minutes prior to next dose. Collect PEAK levels 30 minutes after IV infusion.	Trough: <2 Peak: 5 - 10	mcg/mL	4 hr
GLUCOSE	Chemistry	Blood/SST, RT, or SGRT Urine-24 hour	Method: HEXOKINASE If delayed delivery to Laboratory is anticipated, collect specimen in GREY TOP Or separate serum within 1 hr.	Serum/Plasma: 70 - 109 Urine: 0 - 250	mg/dL mg/Total Volume	4 hr
GLUCOSE-6-PHOSPHATE DEHYDROGENASE (See G-6-PD)						
GLUCOSE TOLERANCE TEST	Chemistry	Gray top	Contact Client Services for instructions.			1 day
GRAM STAIN	Microbiology	Blood/SLT				
H&H PLATELET, WBC PANEL	Hematology	Blood/SLT	See CBC			
HAM'S TEST	Special Hematology		Contact Client Services			4 hr
HAPTOGLOBIN	Chemistry	Blood/RT	Method: IMMUNOTURBIDOMETRIC Test run Monday and Thursday.	30 - 200	mg/dL	24 hr
HAV (HEPATITIS A VIRAL IgM ANTIBODY)	Serology	Blood/RT	Method: ELISA Test run Tuesday, Thursday.	Negative		1 ½ days
HAVAB (HEPATITIS A TOTAL ANTIBODY)	Serology	Blood/RT	Method: ELISA Test run Thursday only Requires GI Service approval.	Negative		5 hr
HBAB (HEPATITIS B ANTIBODY)	Serology	Blood/RT	Method: ELISA Test run Monday, Wednesday, Friday.	Negative		6 hr
HBC (HEPATITIS B CORE ANTIBODY, TOTAL)	Serology	Blood/RT	Method: ELISA Test run Tuesday & Thursday	Negative		4 hr

TEST	Department	Specimen / Container	Special Remarks	Reference Range	Units	TAT
HBSAG (HEPATITIS B SURFACE ANTIGEN)	Serology	Blood/RT	Method: ELISA Request screened prior to testing. Test run Mon., Wed., and Fri.	Negative		4 hr
HCT (HEMATOCRIT)	Hematology	Blood/SLT	See CBC	Male 38 - 52% Female 34 - 45%		
HCV (HEPATITIS C VIRAL ANTIBODY)	Serology	Blood/RT	Method: ELISA Request screened prior to testing. Test run Mon., Wed., and Fri.	Negative		4 hr
HCV GENOTYPING	Serology	Blood/LLT	Genotyping request must be accompanied by request for HCV Viral Load test. One LLT sample will cover both tests.			1 week
HCV VIRAL LOAD	Serology	Blood/LLT	Method: RT-PCR Test run 1 time weekly	None detected		1 week
HCRP (High Sensitivity CRP)	Chemistry	Blood/RT	Method: IMMUNOTURBIDOMETRIC Test run Wednesdays. To assess cardiac risk only	Cardiovascular Risk: <1.1 = low/mild risk 1.2 – 1.9 moderate >2.0 = high risk	mg/L	4 hr
HDL (HDL-CHOL, HDL CHOLESTEROL, HIGH DENSITY LIPOPROTEIN)	Chemistry	Blood/SST, RT or LGT	Method ENZYMATIC/COLORIMETRIC Collect fasting specimen , preferably for 12 hours. Centrifuge and separate immediately.	≥40 (Refer to Tables 1-4, pp. Y-Z)	mg/dL	4 hr
HELICOBACTER PYLORI ANTIBODY	Serology	Blood/RT	Incidence of detectable antibody increases with age. Test run Monday & Wednesday	Negative		4 hr
HELPER/SUPPRESSOR RATIO	Flow Cytometry	Blood/YT	Refer to CD4/CD8 test.	0.8 - 3.1	Ratio	
HGB (HEMOGLOBIN)	Hematology	Blood/SLT	See CBC	Male: 13.0 - 17.3 Female: 11.5 - 15.3	gm/dL	
HEMOGLOBIN A1C (GLYCOSYLATED Hgb)	Chemistry	Blood/SLT	Method: HPLC Test run Monday-Friday	4.2 – 5.8%		1-2 days
HEMOSIDERIN, URINE	Client Services	10mL Urine Contact Client Svc. for urine collection and handling instructions	Referral Test.	None Present		

TEST	Department	Specimen / Container	Special Remarks	Reference Range	Units	TAT
HEPATIC FUNCTION PANEL	Chemistry	Blood/SST or LGT	Panel includes: Direct Bilirubin, Total Bilirubin, Alkaline Phosphatase, AST, ALT, Albumin, and Total Protein	See individual tests		4 hr
HISTOPLASMA ANTIBODY	Serology	Blood/RT	Method: IMMUNODIFFUSION 1) Test run Mon., Tues., & Wed. 2) Aliquot sent to reference lab for complement fixation titer	Negative		1) 2 days 2) 2 weeks
HIV-1/HIV-2 (ELISA) IN-HOUSE ANTIBODY SCREEN	Serology	Blood/RT	Requires copy of signed patient consent with serum sample. Test run Tuesday and Thursday.	Negative		4 hr
HIV-1 VIRAL LOAD ASSAY	Serology	Blood/LLT	Method: RT-PCR Sample must be in lab within 4-6 hours of collection. Viral load must be >1000 copies/mL to be detected.		copies/mL	1 week
HUMAN CHORIONIC GONADOTROPIN (BETA SUBUNIT or BETA HCG) QUANTITATIVE	Client Services	Blood/RT	Referral Test This test is <u>not</u> for detection of pregnancy – see 'Pregnancy Test'			
IGA, SERUM	Chemistry	Blood/SST or RT	Method: IMMUNOTURBIDOMETRIC Test run Monday and Thursday	70 - 400	mg/dL	2-4 days
IGG, TOTAL – SERUM	Chemistry	Blood/SST or RT	Method: IMMUNOTURBIDOMETRIC Test run Monday and Thursday	700 -1600	mg/dL	2-4 days
IGM, SERUM	Chemistry	Blood/SST or RT	Method: IMMUNOTURBIDOMETRIC Test run Monday and Thursday	40 – 230	mg/dL	2-4 days
IMMUNOELECTROPHORESIS (IEP, IFE, IMMUNOFIXATION ELECTROPHORESIS).	Chemistry	Blood/RT Urine/24-hour CSF/Black screw-top tube	Method: GEL ELECTROPHORESIS Test run Mon., Wed., & Fri			
IMMUNOPHENOTYPING	Flow Cytometry	1) Blood/YT 2) Lymph node – place in RPMI solution (available from Histology) 4) Bone marrow – Heparin syringe or YT; 4) Body fluids/YT	Contact Flow Cytometry prior to collection, extension 70268.	Dependent upon pathologist interpretation		

TEST	Department	Specimen / Container	Special Remarks	Reference Range	Units	TAT
INDIRECT COOMBS (IAT)	Transfusion Medicine	Blood/LLT	Order as COOMBS, DIRECT/INDIRECT.	Negative		1 hr
INFLUENZA TYPE A, RAPID TEST	Immunology	Swab	Special foam swab collection kit provided by laboratory Method: Endogenous viral encoded enzyme assay	Influenza virus not detected.		2 hr
IONIZED CALCIUM			See CALCIUM, IONIZED			
IRON	Chemistry	Blood/SST, RT, or LGT	Method: FERRACHROME/FERROZINE Plasma must be separated within 1 hour of collection. HEMOLYZED samples are unacceptable.	Male: 45 - 160 Female: 30 - 160	mcg/dL	4 hr
KETONES (ACETONE)	Chemistry	Blood/SST or LGT	Method: ACETEST COLORIMETRIC	Negative		4 hr
LACTIC ACID (LACTATE, PLASMA)	Chemistry	Blood/SGRT	Method: L-LACTATE OXIDASE Sample tube should be placed on ice and delivered to lab immediately after collection. Avoid prolonged application of tourniquet.	0.5 - 2.2	mEq/L	1 hr
LAP (LEUKOCYTE ALKALINE PHOSPHATASE)	Special Hematology		Hematology-Oncology consult required.			
LD (LACTATE DEHYDROGENASE)	Chemistry	Blood/RT, SST, or LGT	Method: NAD --> NADH ISOENZYMES are referral test: requires staff signature (not performed if LD ≤200) Hemolyzed samples are unacceptable	135 - 250	U/L	4 hr
LDL CHOLESTEROL	Chemistry	Blood/SST or RT	Part of LIPID PROFILE (Calculated value).	<100 (Refer to Tables 1-4, pp. Y-Z)	mg/dL	4 hr
LEAD	Trace Metal Toxicology	Blood/DBT Urine/TM-free cup	Method: ICP/MS	Blood: <40 Urine: <50	mcg/L	2 days
LEGIONELLA DFA	Microbiology	Sputum	Referral Test	Negative		
LEPTOSPIRA CULTURE	Microbiology	Urine, CSF, or Blood/LGT	Referral Test. Protect from sunlight ; submit at room temperature.	No <i>Leptospira species</i> Isolated		

TEST	Department	Specimen / Container	Special Remarks	Reference Range	Units	TAT
LH (LUTEINIZING HORMONE)	Chemistry	Blood/RT	Method: ELECTROCHEMILUMINESCENCE Test run Monday thru Friday.	Males: 1.7 - 8.6 Females: -Follicular Phase 2.4 - 12.6 - Ovulation Phase 14.0 - 5.6 - Luteal Phase: 1.0 -11.4 -Postmenopause: 7.7 - 58.5	mIU/mL	1-2 days
LIPASE	Chemistry	Blood/SST or RT	Method: ENZYMATIC	<60	U/L	4 hr
LIPID PROFILE	Chemistry	Blood/RT or SST	Fasting sample requested Panel includes: Cholesterol, Triglyceride, HDL, LDL (calc) and VLDL (calc) [See pages Y-Z for Risk Factors]	Cholest. 100 - 200 Triglyceride <150 HDL 40 - 60 LDL <100 VLDL 40	mg/dL	4 hr
LITHIUM	Chemistry	Blood/SST or RT	Method: SPECTROPHOTOMETRIC Performed immediately upon receipt.	0.5 - 1.5	mEq/L	4 hr
LIVER PANEL			(See HEPATIC PANEL)			
LUPUS ANTICOAGULANT PANEL	Client Services	Blood/ 2 CBT, and 1 SLT	Referral Test. Pathologist approval required			
MAGNESIUM	Chemistry	Blood/SST, RT, or LGT Urine/24-hour	Method: CALMAGITE/KCN-EGTA Hemolyzed samples are unacceptable	Serum: 1.3 -2.1 Urine: 1.0 - 24.0	mEq/L mEq/24 hr	4 hr
MALARIA SMEAR (THIN AND THICK PREPS)	Hematology/ Microbiology	Blood/SLT	Blood samples must be delivered to Lab within 30-60 minutes of collection.	Negative for malaria forms		2 hr
MERCURY	Trace Metal Toxicology	Blood/DBT Urine/TM-free cup	Method: ICP/MS	Blood: <15 Urine: <20	mcg/L	2 days
METANEPHRINES, TOTAL, URINE	Client Services	Urine/24-hour	Referral Test.			
METHADONE	Toxicology	Urine / Tox cup	See DRUG SCREEN	Negative		8 hr
MHA-TP	Immunology	Blood/RT	Method: MICROHEMAGGLUTINATION Syphilis confirmatory test. Run Mon., Wed., & Friday	Nonreactive		4 hr
MICROALBUMIN	Chemistry	Urine/random or 24-hour	Method: IMMUNOTURBIDOMETRIC Run: Monday and Thursday	Adult: 0 - 23 Child (3-5 yrs): 0 - 20	mg/L	2-4 days
MONO TEST	Immunology	Blood/RT	Method: AGGLUTINATION Screening test for infectious mononucleosis.	Negative		2 hr

TEST	Department	Specimen / Container	Special Remarks	Reference Range	Units	TAT
MYOGLOBIN, URINE	Client Services	Random Urine/TEK tube	Referral Test.			
NAPA (N-ACETYL PROCAINAMIDE) [Active Procainamide Metabolite]	Client Services	Blood/RT or LGT	Referral Test. Sampling Time: 0-1 hour prior to next dose.			
OCCULT BLOOD, FECAL	Microbiology	Stool/PLP	Test run Monday thru Friday.	None detected		1 day
OLIGOCLONAL BANDS	Chemistry	CSF/Black screw-top tube	Method: ELECTROPHORESIS Also submit Blood (RT) for simultaneous SPEP. Test run Monday, Wed., and Friday	Absent or Not Present		3-5 days
OPIATES	Toxicology	Urine /TOX cup	See DRUG SCREEN	Negative		8 hr
OSMOLALITY (OSMO., CALCULATED)	Chemistry	Blood/SST, RT, or LGT Urine /TEK tube	Method: FREEZING POINT	Serum: 265 - 295 Urine: 50 - 1200	mOsM/kg	4 hr
pH, FLUID	Chemistry	Body fluids/RT, black screw-top tube or syringe	Method: pH METER	Variable		4 hr
pH – TOXICOLOGY	Toxicology	Urine /TOX cup	Part of URINE ADULTERATION PANEL	Reference Low: <5.0 High: >7.5 *Values <4 and >8 suggest the addition of an adulterant (acid or alkali)		8 hr
PHENCYCLIDINE	Toxicology	Urine / TOX cup	See DRUG SCREEN			8 hr
PHENOBARBITAL	Chemistry	Blood/RT	Method: CEDIA Sampling Time: 1 hour prior to next dose. After dosing, Steady State should be achieved before sampling.	Therapeutic Range: 15 - 40	mcg/mL	4 hr
PHENYTOIN (See DILANTIN)	Chemistry	Blood/RT				
PLATELET COUNT	Hematology	Blood/SLT	See CBC	140 - 400	K/cu mm	4 hr
PHOSPHATE (PO ₄ ; PHOSPH.)	Chemistry	Blood/SST, RT, or LGT Urine - 24hr	Method: AMMONIUM MOLYBDATE	Serum: 2.4 - 4.5 Urine: 0.4 - 1.3	mg/dL g/24hr	4 hr
PNEUMOCYSTIS DFA	Client Services	Sputum or Bronchial washing	Referral Test.	Negative		

TEST	Department	Specimen / Container	Special Remarks	Reference Range	Units	TAT
POTASSIUM (K)	Chemistry	Blood/SST, RT, or LGT Urine-24 hr	Method: ISE Hemolyzed specimens are unacceptable for analysis.	Serum: 3.3 - 5.1 Urine: 25 - 125	mmol/L mmol/24 hr	4 hr
PREALBUMIN, SERUM	Chemistry	Blood/RT	Method: IMMUNOTURBIDOMETRIC Test run Monday and Thursday	2 0- 40	mg/dL	2-4 days
PREGNANCY TEST (B-HCG, QUALITATIVE)	Chemistry	Blood/RT Urine /TEK tube	Method: MONOCLONAL ANTIBODY-HCG First-morning urine preferred. Detects B-HCG low as 25 mIU/mL.		mIU/mL	2 hr
PRIMIDONE	Client Services	Blood/RT	Referral Test.			
PRO-BNP	Chemistry	Blood/LGT or SST	METHOD:ELECTROCHEMILUMINESCENCE Age: <50 yrs 50-74 yrs >74 yrs	<u>Normal</u> <u>High</u> <300 >450 <300 >900 <300 >1800	pg/mL	4 hr
PROCAINAMIDE	Client Services	Blood/RT or LGT	Referral Test Sampling Time: 0-1 hour prior to next dose.			
PROLACTIN	Chemistry	Blood/SST or RT	METHOD:ELECTROCHEMILUMINESCENCE Test run Monday thru Friday.	Male: 4.1 - 18.4 Female 3.4 - 24.1	ng/mL	1-2 days
PROSTATIC SPECIFIC ANTIGEN (PSA)	Chemistry	Blood/SST or RT	METHOD: CHEMILUMINESCENCE Used as screening test. Test run Monday thru Friday.	0.0 to 4.0	ng/mL	1-2 days
PROTEIN C/ PROTEIN S	Client Services	Blood/two (2) CBT	Referral Test.			
PROTEIN ELECTROPHORESIS, CSF (CPEP) [See OLIGOCLONAL BAND]	Chemistry	CSF/Black screw-top tube	Test run Monday, Wednesday, and Friday.			3-5 days
PROTEIN ELECTROPHORESIS, SERUM (SPEP, SPE)	Chemistry	Blood/RT	Hemolyzed samples unacceptable. Test run Monday, Wednesday, and Friday.	Albumin: 3.5 - 5.8 Alpha-1-globulin: 0.11 - 0.32 Alpha-2-globulin: 0.22 - 1.10 Beta-globulin: 0.5 3- 1.10 Gamma-globulin: 0.5 - 1.5	g/dL	3-5 days

TEST	Department	Specimen / Container	Special Remarks	Reference Range	Units	TAT
PROTEIN ELECTROPHORESIS, URINE (UPEP)	Chemistry	Urine/24-hour collection recommended	Test run Monday, Wednesday, and Friday.	Pre-albumin: 1-2% Albumin: 33 - 43% Alpha-1-globulin: 24 - 30% Alpha-2-globulin: 17 - 23% Beta-globulin: 6 - 12% Gamma-globulin 3 - 7%		3-5 days
PROTEIN, TOTAL	Chemistry	Blood/SST or LGT Urine-24 hour. Body fluids	Method: BIURET	Serum: 5.9 - 8.4 Urine: 0 - 150 CSF: 15 - 45	g/dL mg/24hr mg/dL	4 hr
PROTHROMBIN TIME (PT)	Hematology	Blood/CBT	Method: MECHANICAL BALL Tube must be drawn to capacity, and delivered to Laboratory within 1 hour of collection. 1:1 dilution performed only on abnormal high test results, upon request.	11.8 – 15.4 seconds		4 hr
PROTOPORPHYRIN, ZINC	Toxicology	Blood/SLT		<41	mcg/dL	2 days
PTH – INTACT (PARATHYROID HORMONE INTACT)	Chemistry	Plasma/Pink Top (7.0 mL)	Method: ELECTROCHEMILUMINESCENCE Deliver to lab immediately.	15 - 65	pg/mL	2-4 days
PTT (ACTIVATED PARTIAL THROMBOPLASTIN TIME; APTT)	Hematology	Blood/CBT	Method: MECHANICAL BALL Draw tube to capacity; deliver Deliver to lab within 1 hour of collection (1:1 dilution performed only on non-heparinized abnormal high test results, upon request, Monday-Friday, 8:30 am-2:30 pm)	22.8 – 35.6 seconds		4 hr
QUINIDINE	Client Services	Blood/RT or LGT	Referral Test			
RETICULOCYTES	Hematology	Blood/SLT	Method: FLOW CYTOMETRY Urgency: routine	0.5 - 2.0%		4 hr
RHEUMATOID FACTOR (RF)	Chemistry	Blood/SST or RT	Method: PARTICLE-ENHANCED IMMUNOTURBIDOMETRIC Test run Monday and Thursday.	<14	IU/mL	2-4 days
RPR	Serology	Blood/RT	SYPHILIS SCREENING test	Nonreactive		4 hr
SALICYLATE (ASA, ASPIRIN)	Chemistry	Blood/RT	Method: COLORIMETRIC EDTA sample acceptable.	Therapeutic Range: 100 - 200 Toxic: >300	mg/L	4 hr

TEST	Department	Specimen / Container	Special Remarks	Reference Range	Units	TAT
SEDIMENTATION RATE (SED RATE; ESR)	Hematology	Blood/SLT	Method: SEDIPLAST URGENCY: routine	Male: <50 yr 0-15 50-85 yr 0-20 >85 yr 0-30 Female <50yr 0-20 50-85 yr 0-30 >85 yr 0-42	mm/hr	4 hr
SELENIUM	Trace Metal Toxicology	Urine/TM-free cup	Method: ICP/MS	Urine: <160	mcg/L	2 days
SEMEN ANALYSIS (POST-VASECTOMY, QUALITATIVE)	Hematology	Urine cup	Method: MANUAL WET PREPARATION Test for GU Clinic only. Available Mon-Fri, 8 AM – 3PM Specimen will be collected in GU Clinic and immediately delivered to lab.	No sperm observed		1-2hr
SEMEN ANALYSIS (QUANTITATIVE)	Client Services		Referral Test. Please contact Client Services prior to collection.			1 day
SGOT (AST)	Chemistry	Blood/SST or LGT	See AST			
SGPT (ALT)	Chemistry	Blood/SST or LGT	See ALT			
SICKLE CELL SCREEN	Hematology	Blood/SLT	Method: DIFFERENTIAL SOLUBILITY	Negative		4 hr
SODIUM (Na)	Chemistry	Blood/SST Urine-24hr	Method: ISE	Serum: 133 - 145 Urine: 40 - 220	mmol/L mmol/24 hr	4 hr
SPECIFIC GRAVITY	Urinalysis	Urine /TEK tube	Part of Urinalysis	1.005 - 1.030		4 hr
SPECIFIC GRAVITY	Toxicology	Urine /TOX cup	Included in URINE ADULTERATION PANEL	<1.003 may indicate diluted urine		8 hr
T-3 RESIN UPTAKE	Client Services	Serum/LRT	Referral Test.			
T3 RADIO-IMMUNOASSAY (TRI-IODOTHYRONINE)	Client Services	Serum/RT	Referral Test.			
TELLURIUM	Trace Metal Toxicology	Urine/TM-free cup	Method: ICP/MS	Urine: <10	mcg/L	2 days
TESTOSTERONE	Chemistry	Blood/SST or RT	Method: ELECTROCHEMILUMINESCENCE Test run Monday thru Friday.	Male: 2.8 - 8.0 Female: 0.06 - 0.82	ng/mL	1-2 days
THEOPHYLLINE	Chemistry	Blood/RT	Method: CEDIA Dosing time varies due to different product formulations	Therapeutic Range: 10 - 20	mcg/mL	4 hr
THROMBIN TIME	Hematology	Blood/CBT	Method: MECHANICAL BALL Draw tube to capacity. 1:1 dilution performed on abnormal high test results only, upon REQUEST.	13.1 – 18.9 seconds		4 hr

TEST	Department	Specimen / Container	Special Remarks	Reference Range	Units	TAT
THYROID STIMULATING HORMONE (TSH)	Chemistry	Blood/SST or RT	Method: CHEMILUMINESCENCE Sodium heparin sample is acceptable. Test run Monday thru Friday.	0.27 - 4.20	μIU/mL	1-2 days
THYROXINE (T4)	Client Svc	Serum/LRT	Referral Test.			
TOBRAMYCIN	Chemistry	Blood/RT	Refer to Quick Guide at end of this yellow page section. Method: CEDIA PEAK: Sampling Time - 30 minutes after last dose. TROUGH: Sampling Time - 0-30 minutes prior to next dose.	Trough: <2 Peak: 5 - 10	mcg/mL	4 hr
TOPIRAMATE	Client Services	Blood/RT or LGT	Referral Test.	Therapeutic Range: 2 - 25	mcg/mL	
TRANSFERRIN	Chemistry	Blood/SST or RT	Method: IMMUNOTURBIDOMETRIC Test run Monday and Thursday.	200- 400	mg/dL	2-4 days
TRICHOMONAS	Microbiology/ Urinalysis	Urine-Random Vaginal/Sterile swab	Wet Prep: few drops in saline. Deliver to Lab immediately.	Negative		4 hr
TRIGLYCERIDE	Chemistry	Blood/SST, RT, or LGT	Method: GPO Fasting specimen required, preferably 12 hour.	<150 (Refer to Tables 1-4, pp. Y-Z)	mg/dL	4 hr
TROPONIN-T	Chemistry	Plasma/Pink Top	Method: ELECTROCHEMILUMINESCENCE	<0.01	ng/mL	2 hr
TYPE & SCREEN (CROSSMATCH)	Transfusion Medicine	Blood/LLT	Must be accompanied by SF518 form.	Compatible blood and blood products		1-8 hr
UREA NITROGEN	Chemistry	Blood/SST or LGT Urine-24 hr	See "BUN"	Serum: 6 - 20 Urine: 6 - 17	mg/dL g/24 hr	4 hr
URIC ACID	Chemistry	Blood/SST or LGT Urine-24 hour	Method: URICASE	Serum/Plasma: Male: 3.4 - 7.8 Female 2.4 - 5.7 Urine 250 - 750	mg/dL mg/24hr	4 hr
URINALYSIS (U/A)	Urinalysis	Urine /TEK tube	Specimen must be less than 2 hours old.	Specific Gravity: 1.005 - 1.030 pH: 5.0 - 7.5 Protein: Negative Glucose: Negative Ketone: Negative Bilirubin: Neg Blood: Negative Nitrite: Negative Leukocyte: Neg Urobilinogen: 0.2 - 1.0		4 hr

TEST	Department	Specimen / Container	Special Remarks	Reference Range	Units	TAT
URINE ADULTERATION PANEL	Toxicology	Urine / TOX cup	Tests include: Creatinine-Tox, pH-Tox, and Specific Gravity			8 hr
URINE EOSINOPHILS	Cytology	Urine	Must be fresh urine sample. Submit with SF-515 form.			4 hr
VALPROIC ACID	Chemistry	Blood/RT	Method: CEDIA	Therapeutic Range: 50 - 125	mcg/mL	4 hr
VANCOMYCIN	Chemistry	Blood/RT	Method: ENZYME IMMUNOASSAY PEAK: Sampling time is 2 hrs. after last dose. TROUGH: Sampling time is 0-15 minutes prior to next dose. Refer to Timing Guide, end of this section. Assay run once per shift.	Therapeutic Range: Peak: 20 - 40 Trough: 5 -10	mcg/mL	4 hr
VDRL (CSF)	Serology	CSF/Black screw-top tube		Nonreactive		4 hr
VIRAL CULTURE	Client Services		Referral Test.			
VIRAL LOAD ASSAYS: SEE HIV-1 or HCV						
VISCOSITY, SERUM	Chemistry	Blood/RT 2 <u>full</u> tubes are required	Method: OSTWALD VISCOMETER Test run Monday thru Friday (on day shift) as requested.	1.4 - 1.8		4 hr
VITAMIN B-12	Chemistry	Blood/SST or RT	Method: CHEMILUMINESCENCE Order as B12/Folate Panel, do not order separately. Performed Tuesday & Thursday.	See B12/Folate Panel		1-2 days
VLDL	Chemistry	Serum/RT	Part of Lipid Profile.	See Lipid Profile		
VMA (VANILLYL- MANDELIC ACID)	Client Services	Urine – 24 hr. Contact Client Services for collection instructions	Referral Test. Patient should be instructed to abstain from chocolate, plantains and bananas, aspirin, coffee, tea, foods containing vanilla flavoring, and caffeine for 48 hours prior to collection.			
V-Z ANTIBODY (<i>Varicella zoster</i>)	Serology	Blood/RT	Test run Friday only.	Negative		4 hr
WBC (WHITE BLOOD CELL COUNT, TOTAL BLOOD) [Also see FECAL LEUCOCYTES]	Hematology	Blood/SLT	See CBC	4.0 – 11.0	K/cu mm	4 hr

TEST	Department	Specimen / Container	Special Remarks	Reference Range	Units	TAT
WBC IMMUNOPHENOTYPING PANEL	Flow Cytometry	1) Blood/ YT(ACD) 2) Lymph node – RPMI solution (Available from Histology) 3) Bone marrow – Heparinized syringe (0.2 mL Heparin [1000 U/mL], in 10 mL syringe) or YT (ACD); 5) Body fluids - YT(ACD)	Contact Flow Cytometry (214) 857-0278, prior to collection. DO NOT collect after 3:00 PM Fridays, or on weekends or holidays.	Dependent upon pathologist interpretation		
WESTERGREN (see SEDIMENTATION RATE)						

Explanation of Container Codes:

CBT - Small Light Blue Top tube, Na Citrate (4.5 mL)
DBT - Dark Blue Top tube, no additive (7 mL)
DBT - Dark Blue Top tube, EDTA (7 mL)
LGT - Light Green Top tube, Lithium Heparin (4.5 mL)
LLT - Large Lavender top tube, EDTA (10 mL)
MLT - Medium lavender top, EDTA (7mL)
Pink Top - Pink Top tube, EDTA (7mL)
PLP - Plastic Leak-proof Container
RT - Red Top tube (7 mL)
SGRT - Small Gray Top tube, Na Fluoride, K Oxalate (5 mL)
SGT - Small Green Top tube Na Heparin (3 mL)
SLT - Small Lavender Top tube, EDTA (4 mL)
SST - Gold Top Serum Separator Tube, Silicone gel (5 mL)
TM-free Cup - Trace metal free urine cup
UR - Plastic screw cap urine cup
YT - Yellow Top tube, Acid Citrate Dextrose (10 mL)

Test Methodology Abbreviation Key:

ACETEST - Nitroprusside reaction
AMYLASE/EPS - Amylase detection by ethylidene protected substrate
CEDIA - Enzymatic Immunoassay
DPD - 2,5-dichlorophenyldiazonium tetrafluoroborate
EIA - Enzyme Immunoassay
ELISA - Enzyme-linked Immunosorbent Assay
EMIT - Enzyme Multiplied Immunoassay Technique
GLDH - Glutamate Dehydrogenase
GPO - Glycerol Phosphate Oxidase
HPLC - High Performance Liquid Chromatography
ICP/MS - Inductively Coupled Plasma/Mass Spectrometry
ICT - Ion Capture Technology
IFCC - Int'l. Fed. Clinical Chemistry Reference Enzymatic Reaction
ISE - Ion Selective Electrode
MEIA - Microparticle Enzyme Immunoassay
NAC - N-acetyl-L-cysteine
PCR - Polymerase Chain Reaction
PEPC ENZYMATIIC -- Phosphoenolpyruvate carboxylase

NOTE: FOR ALL CHEMISTRY AND HEMATOLOGY TESTS, GLASS TUBES ARE NOT ACCEPTABLE.

VANTHCS REFLEXED TESTS

SCREENING TEST:	SCREENING TEST CONDITION:	REFLEXED TEST:
RPR	REACTIVE	RPR TITER and MHA-TP
VDRL	REACTIVE	VDRL TITER
ANTINUCLEAR ANTIBODY (ANA)	POSITIVE	ANA TITER WITH PATTERN
CRYPTOCOCCAL ANTIGEN	POSITIVE	CRYPTOCOCCAL ANTIGEN TITER
BACTERIAL MENINGITIS ANTIGENS	ANTIGEN SCREEN TEST REQUESTED	BACTERIAL CULTURE
STOOL SUBMITTED TO MICROBIOLOGY FOR CULTURE AND/OR PARASITOLOGY	BLOODY SAMPLE	CULTURE FOR <i>E. coli</i> O157:H7
BLOOD OR STERILE FLUID SUBMITTED FOR FUNGAL / MYCOBACTERIAL CULTURE	BACTERIAL GROWTH ON FUNGAL OR MYCOBACTERIAL MEDIA ONLY	FULL WORKUP OF BACTERIAL ISOLATES
PROTEIN ELECTROPHORESIS, URINE OR CSF	SUSPECTED MONOCLONAL PROTEIN	IMMUNOELECTROPHORESIS

TABLE 1. ATP III CLASSIFICATION OF TOTAL, LDL, AND HDL CHOLESTEROL, AND TRIGLYCERIDES

TOTAL CHOLESTEROL (mg/dL)		LDL CHOLESTEROL (mg/dL)		HDL CHOLESTEROL (mg/dL)		TRIGLYCERIDES (mg/dL)	
				<40	High risk		
100 – 200	Desirable	<100	Optimal			<150	Normal
		100 – 129	Near/above optimal				
200 – 239	Borderline high risk	130 – 159	Borderline high risk			150 – 199	Borderline – high risk
>240	High risk	160 – 189	High risk	≥60	Low risk	200 – 499	High risk
		≥190	Very high risk			≥500	Very high risk

TABLE 2. MAJOR RISK FACTORS (EXCLUSIVE OF LDL CHOLESTEROL) THAT MODIFY LDL GOALS*

- Cigarette smoking
- Hypertension [BP ≥140/90 mm/Hg or on antihypertensive medication]
- Low HDL cholesterol [<40 mg/dL]▶▶
- Family history of premature CHD [CHD in male first degree relative <55 years, or female first degree relative <45 years]
- Age [men ≥45 years; women ≥55 years]

* In ATP III, diabetes is regarded as a CHD risk equivalent; other CHD risk equivalents include other atherosclerotic disease (peripheral arterial disease, abdominal aortic aneurysm, and symptomatic carotid artery disease); multiple risk factors that confer a 10-year risk for CHD >20%

▶▶ HDL cholesterol ≥60 mg/dL counts as ‘negative’ risk factor; its presence removes one risk factor from the total count.

TABLE 3. LDL CHOLESTEROL GOALS AND CUTPOINTS FOR THERAPEUTIC LIFESTYLE CHANGES AND DRUG THERAPY IN DIFFERENT RISK CATEGORIES.

Risk Categories	10-YEAR RISK	LDL-Cholesterol Goal	LDL Level at Which to Initiate Therapeutic Lifestyle Change
CHD or CHD risk	>20%*	<100 mg/dL	See CHD and CHD risk equivalent
Multiple (2+) risk factors	10-20%	<130 mg/dL	≥130 mg/dL
Zero to one risk factor	<10%	<160 mg/dL	≥160 mg/dL

*Some authorities recommend use of LDL-lowering drugs in this category if an LDL cholesterol <100 mg/dL cannot be achieved by therapeutic lifestyle changes. Others prefer use of drugs that primarily modify triglycerides and HDL, e.g., nicotinic acid or fibrates. Clinical judgment also may call for deferring drug

TABLE 4. CLINICAL IDENTIFICATION OF THE METABOLIC SYNDROME RISK FACTOR DEFINING LEVEL

- Abdominal obesity* waist circumference – men >102 cm (>40 inches); women >88 cm (>35 inches)
- Triglycerides ≥150 mg/dL
- HDL cholesterol: men <40 mg/dL; women <50 mg/dL
- Blood pressure ≥130/≥85 mm/Hg
- Fasting glucose ≥110 mg/dL

*Overweight and obesity are associated with insulin resistance and the metabolic syndrome. However the presence of abdominal obesity is more highly correlated with the metabolic risk factors than is an elevated body mass index (BMI). Therefore, the simple measure of waist circumference is recommended to identify the body with component of the metabolic syndrome.

»Some male patients can develop multiple metabolic risk factors when the waist circumference is only marginally increased, e.g., 94-102 cm (37-39 inches). Such patients may have a strong genetic contribution of insulin resistance. They should benefit from changes in life habits, similarly to men with categorical increases in waist circumference.

REFERENCE: National Cholesterol Education Program – Adult Treatment Panel Report. 2001.

QUICK GUIDE FOR DRAWING ANTIBIOTIC LEVELS

I. Intermittent (ie. q8 and q12 hour) aminoglycosides [AMG] (amikacin, gentamicin and tobramycin) levels:

Trough levels: <30 minutes before the dose	Peak levels: 30 minutes after the end of infusion
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Therapeutic levels (trough): Gentamicin & tobramycin \leq 2mcg/mL Amikacin: \leq 10 mcg/mL	Therapeutic levels (peak): Gentamicin & tobramycin: 4-10mcg/mL Amikacin: 20-30 mcg/mL
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II. Once daily AMG levels:

Peaks are not drawn

Draw a "random" level 6-12 hours after the start of infusion. The **recommended time is 8 hours after the start of the infusion.**

Refer to the AMG nomogram for interpretation of levels. The nomogram can be found on the back of the Antibiotic Order Form or in the VANTHCS Formulary.

III. Timing of drug levels with Vancomycin

<u>Trough levels:</u> 30 minutes before the dose	<u>Peak levels:</u> One hour after end of the infusion (infuse at rate of 1 gm/hour)	<u>Therapeutic: levels</u> Trough: 5 to 10mcg/mL Peak: 20 to 40 10mcg/mL
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Vancomycin should be monitored by "trough" levels only (see ** Antibiotic Level Protocol for patients with whom peaks and troughs may be recommended.)

The above information regarding peak levels was provided if a clinician desires peak and trough levels for the purpose pharmacokinetics calculations. In general, vancomycin should be monitored by trough levels. As above, the trough should be obtained just before the 3rd dose and again just before 8th dose.**

**Please refer to the Rx Bullet, "Antibiotics Levels-Protocol" for detailed information.

Noting the dose and blood level draw times is of paramount importance!