

2006–2007 TEST MENU

***PATHOLOGY & LABORATORY
MEDICINE SERVICE***

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

***updated
July 3, 2006***

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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 or LGT 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) | | | | | | |

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|---------------------------------------|------------------------|--|---|---|--------------------|-------------------------|
| AMMONIA (NH3) | 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 | 2 hr |
| AMPHETAMINES | Toxicology | Urine/Tox cup | See DRUG SCREEN | Negative | | 8 hr |
| AMYLASE | Chemistry | Blood/SST, or RT, or LGT. 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 Fluid: None | U/L U/24 hr | 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 | Urine/TM-free cup | Method: ICP/MS | <10 | mcg/L | 3 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 | 3 days |

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| AST (SGOT) | Chemistry | Blood/SST, RT, or LGT | Method: IFCC | Male: 0-37 Female: 0-31 | U/L | 4 hr |
| BACTERIAL ANTIGENS | Client Services | Urine – Clean Catch; CSF | Referral Test. Panel Includes: S. pneumoniae; N. meningitidis (A,C,Y,W,135); N. meningitidis B/E. coli K1; H. influenzae; Streptococcus, grp. B. Bacterial culture must also be ordered. | Negative | | 4 days |
| 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: 70-109 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 mEq/L mg/dL mg/dL mg/dL mg/dL | 4 hr |
| B12/FOLATE PANEL | Chemistry | Blood/RT, SST | Method: ELECTROCHEMILUMINESCENCE Test run Monday through Friday Hemolyzed specimens are unacceptable. | 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 | | 8 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 | 3 days |
| BETA 2 MICROGLOBULIN (SERUM) | Chemistry | Blood/RT or SST | Method: IMMUNOTURBIDOMETRIC Test run once weekly. | 0.8-2.2 | mg/L | 2-4 days |
| 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. BILI.) | Chemistry | Blood/SST, RT, or LGT | Method: DPD Protect sample from light. | 0-1.0 | mg/dL | 4 hr |

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| BISMUTH | Trace Metal Toxicology | Urine/TM-free cup | Method: ICP/MS | <20 | mcg/L | 3 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 |
| 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 or random | Method: UREASE GLDH | Serum/Plasma:6-20 Urine: 6-17 | mg/dL g/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 | 3 days |
| CALCIUM, TOTAL | Chemistry | Blood/SST or LGT Urine 24 hour or random | 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 |

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| 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 | Method: ELECTROCHEMILUMINESCENCE Test run Wednesday thru Friday | 0-4.6 | ng/mL | 3-5 days |
| CATECHOLAMINES (fractionated, epinephrine and norepinephrine) | Client Services | Urine - 24 hr Contact Client Services for container | Referral test Signed authorization by a staff physician required | | | |

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|----------|------------|----------------------|---|--|--|------|
| CBC/DIFF | Hematology | Blood/SLT | <p>Blood must be mixed gently immediately after collection.</p> <p>CLOTTED or HEMOLYZED specimens are unacceptable.</p> | <p>WBC 4.0–11.0</p> <p>RBC:</p> <ul style="list-style-type: none"> •Male: 4.30–5.80 •Female 3.80-5.30 <p>Hemoglobin:</p> <ul style="list-style-type: none"> •Male: 13.0–17.3 •Female 11.5–15.3 <p>Hematocrit:</p> <ul style="list-style-type: none"> •Male 38.0–52.0 •Female 34.0-45.0 <p>MCV: 80.0-98.0</p> <p>MCH: 27.0-34.0</p> <p>MCHC: 31.5-36.5</p> <p>RDW-CV 11.0-16.0</p> <p>PLATELET: 140-400</p> <p>MPV: 8.0-13.0</p> <p>DIFFERENTIAL:</p> <ul style="list-style-type: none"> - 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 | <p>K/cu mm</p> <p>M/cu mm</p> <p>g/dL</p> <p>percent</p> <p>fL</p> <p>pg</p> <p>g/dL</p> <p>percent</p> <p>K/cu mm</p> <p>fL</p> | 4 hr |

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| Cath-MB Panel (Cath CPK, Cath MB, Cath R Index) | Chemistry | Blood/SST | Method: CK fraction: NAC CK-MB fraction: Electrochemiluminescence | CK: Male 24-195 Female 24-170 CK-MB: 0-5.0 | IU/L Ng/mL | 2 hr |
| 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. | Fluid <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 once weekly | 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 or random | Method: ISE | Serum/plasma: 96-108 Urine: 110-250 | mmol/L mmol/ 24 hr | 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 |

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| CHROMIUM | Trace Metal Toxicology | Blood/DBT Urine/TM-free cup | Method: ICP/MS | Blood: <5.1 Urine: <2.0 | mcg/L | 3 days |
| CK, TOTAL | Chemistry | Blood/RT, SST, or LGT | Method: NAC | Male: 24-195 Female: 24-170 | IU/L | 4 hr |
| 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 |
| CK-MB (stat) | Chemistry | Plasma Pink Top (7 ml) | Method: ELECTROCHEMILUMINESCENCE | 0.0-5.0 | ng/mL | 30 min |
| 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 once weekly | 90-180 | mg/dL | 2-4 days |
| COMPLEMENT C4 | Chemistry | Blood/SST or RT | Method: IMMUNOTURBIDOMETRIC Test run once weekly | 10-40 | mg/dL | 2-4 days |

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| 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 - 109 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 5-43 | mEq/L mEq/L mEq/L mEq/L 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 |
| 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 | 24 hrs |
| 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 |

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| 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: Immunoturbidometric 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: Immunoturbidometric 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 |
| 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 before results are released. | 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) | | | | | | |

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| 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 | mg/dL | 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: <50 yrs 15 - 150 >50 yrs: approaching values for men | 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 | |
| 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 | ng/mL | 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. | | | |

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| 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. | | | |
| 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, SGRT or LGT Urine-24 hour or random CSF | 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 CSF: 40-70 mg/dL Fluids: None | mg/dL mg/24 hrs | 4 hr |

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| 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 once weekly. | 30 - 200 | mg/dL | 2-4 days |
| HAV (HEPATITIS A VIRAL IgM ANTIBODY) | Serology | Blood/LRT | Method: ELISA Test run Tuesday, Thursday. | Negative | | 1 ½ days |
| HAVAB (HEPATITIS A TOTAL ANTIBODY) | Serology | Blood/LRT | Method: ELISA Test run Thursday only Requires GI Service approval. | Negative | | 5 hr |
| HBAB (HEPATITIS B ANTIBODY) | Serology | Blood/LRT | Method: ELISA Test run Monday, Wednesday, Friday. | Negative | | 6 hr |
| HBC (HEPATITIS B CORE ANTIBODY, TOTAL) | Serology | Blood/LRT | Method: ELISA Test run Tuesday & Thursday | Negative | | 4 hr |
| HBSAG (HEPATITIS B SURFACE ANTIGEN) | Serology | Blood/LRT | 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/LRT | 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. Request required GI or ID authorization; others will be cancelled. | | | 1 week |
| HCV VIRAL LOAD | Serology | Blood/LLT | Method: RT-PCR Test run 1 time weekly. Request required GI or ID authorization; others will be cancelled. | None detected | | 1 week |

| TEST | Department | Specimen / Container | Special Remarks | Reference Range | Units | TAT |
|--|-------------------|---|--|--|-------|-------------------------|
| HCRP (High Sensitivity CRP) | Chemistry | Blood/RT | Method: IMMUNOTURBIDOMETRIC Test run Monday and Thursday. To assess cardiac risk only | Cardiovascular Risk: <1.1 = low/mild risk 1.2 – 1.9 moderate >2.0 = high risk | mg/L | 2-4 days |
| 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 | | |
| 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 |

| TEST | Department | Specimen / Container | Special Remarks | Reference Range | Units | TAT |
|--|----------------------|--|---|---|---------------|-------------|
| 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 | Client Services | Blood/SST or RT | Referral Test | 70 - 400 | mg/dL | 2-4 days |
| IGG, TOTAL – SERUM | Client Services | Blood/SST or RT | Referral Test | 700 -1600 | mg/dL | 2-4 days |
| IGM, SERUM | Client Services | Blood/SST or RT | Referral Test | 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 | | |
| 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 | | | |

| TEST | Department | Specimen / Container | Special Remarks | Reference Range | Units | TAT |
|--------------------------------------|------------------------|--------------------------------|---|--|--------|----------|
| 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 | 2 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/dL | 3 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 | | |
| LH (LUTEINIZING HORMONE) | Chemistry | Blood/RT or SST | Method: ELECTROCHEMILUMINESCENCE Test run Tuesday and Thursday. | Males: 1.7 - 8.6 Females: -Follicular Phase 2.4 - 12.6 - Ovulation Phase 14.0 – 95.6 - Luteal Phase: 1.0 -11.4 -Postmenopause: 7.7 - 58.5 | mIU/mL | 3-5 days |
| LIPASE | Chemistry | Blood/SST, RT or LGT | Method: ENZYMATIC | <60 | U/L | 4 hr |

| TEST | Department | Specimen / Container | Special Remarks | Reference Range | Units | TAT |
|---|-----------------------------|--|---|--|--------------------|----------|
| 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 <30 | 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 | 3 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 |
| Myoglobin (stat) | Chemistry | Plasma Pink Top (7 mL) | Method: Electrochemiluminescence | Male: 28-72 Female: 25-58 | ng/mL | 30 min |
| MYOGLOBIN, URINE | Client Services | Random Urine/TEK tube | Referral Test. | | | |
| NAPA (N-ACETYL PROCAINAMIDE) [Active Procaïnamide 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 |

| TEST | Department | Specimen / Container | Special Remarks | Reference Range | Units | TAT |
|--|-----------------|--|---|---|-------------------------|-------------|
| OPIATES | Toxicology | Urine /TOX cup | See DRUG SCREEN | Negative | | 8 hr |
| OSMOLALITY (OSMO., Manual) | Chemistry | Blood/SST, RT, or LGT Urine /TEK tube | Method: FREEZING POINT | Serum: 265 - 295 Urine: 50 - 1200 | mOsM/kg | 4 hr |
| OXYCODONE/ OXYMORPHONE SCREEN | Toxicology | Urine/Tox cup | Not included in Drug Screen | Negative | | 8 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: <4.0 High: >9 *Values <4 and >9 suggest the addition of an adulterant (acid or alkali) | | 8 hr |
| PHENCYCLIDINE | Toxicology | Urine / TOX cup | See DRUG SCREEN | Negative | | 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 (PO4; 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 | | |
| 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. | | | |

| TEST | Department | Specimen / Container | Special Remarks | Reference Range | Units | TAT |
|--|-----------------|--------------------------------------|--|---|-------|----------|
| 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 | 1 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 Tuesday and Thursday. | Male: 4.1 - 18.4 Female 3.4 - 24.1 | ng/mL | 3-5 days |
| PROSTATIC SPECIFIC ANTIGEN (PSA) | Chemistry | Blood/SST or RT | METHOD: ELECTROCHEMILUMINESCENCE 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 ELECTRO-PHORESIS, CSF (CPEP) [See OLIGOCLONAL BAND] | Chemistry | CSF/Black screw-top tube | Test run Monday, Wednesday, and Friday. | | | 3-5 days |
| PROTEIN ELECTRO-PHORESIS, 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 |
| PROTEIN ELECTRO-PHORESIS, 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 |

| TEST | Department | Specimen / Container | Special Remarks | Reference Range | Units | TAT |
|---|-------------------------|---|---|--|--------------------------|----------|
| 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 |
| PROTEIN, TOTAL-URINE | Chemistry | Urine 24 hr or random | Method: BIURET | Urine: 0-150 | mg/24hr | 4 hr |
| PROTEIN, TOTAL – FLUIDS | Chemistry | SST | Method: BIURET | None | | 4 hr |
| PROTEIN, TOTAL – CSF | Chemistry | Black Screw Top | Method: BIURET | CSF: 15-45 | 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 | Trace Metals 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. Test run Tuesday and Thursday | 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: Modified Westergren 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 | 3 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 | 3 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: ELECTROCHEMILUMINESCENCE 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 | 200- 400 | mg/dL | 4 hr |
| 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 | 30 min med emerg |
| 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 or random | 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 or random | Method: URICASE | Serum/Plasma: Male: 3.4 - 7.8 Female 2.4 - 5.7 Urine 250 - 750 | mg/dL mg/24hr | 4 hr |

| TEST | Department | Specimen / Container | Special Remarks | Reference Range | Units | TAT |
|--|-----------------|--------------------------|---|--|--------|------|
| 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 |
| URINALYSIS WITH MICROSCOPIC | Urinalysis | Urine/TEK tube | Specimen must be less than 2 hours old. | See Urinalysis Ranges for UA Microscopic Ranges: RBC: 0-5/HPF WBC: 0-5/HPF Epithelial Cells: 0-1/HPF Cast(hyaline): 0-5/LPF Clean catch: Few bacteria, slight mucous Catheterized: No microscopic findings | | 4 hr |
| 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 | | | | | | |

| TEST | Department | Specimen / Container | Special Remarks | Reference Range | Units | TAT |
|---|-----------------|---|---|---|---------|----------|
| 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: ELECTROCHEMILUMINESCENCE Order as B12/Folate Panel, do not order separately. Performed Monday through Friday. | See B12/Folate Panel | pg/mL | 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 |
| 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)
LRT - Larger Red Top tube (10 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 ENZYMATIc -- 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 PARISITOLOGY | 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 fibrate. 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 \geq 150 mg/dL
- HDL cholesterol: men <40 mg/dL; women <50 mg/dL
- Blood pressure \geq 130/ \geq 85 mm/Hg
- Fasting glucose \geq 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 |
|--|---|

| | |
|---|--|
| 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 |
|---|--|

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 |
|--|---|---|

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!