



**A****ABO AND RH TYPE****Frequency/TAT:** Daily**Tube:** Pink**Specimen Required:** 6 ml whole blood**Lab Section:** Transfusion Services**CPT:** 86900, 86901**SRL#:** 4005 (for inpatient and outpatient),  
#14016 (for physician offices/nursing homes)**ABSOLUTE LYMPHOCYTE COUNT****Frequency/TAT:** Daily**Tube:** Lavender**Specimen Required:** 3 ml EDTA whole blood.**Lab Section:** Hematology**CPT:** 85048**SRL#:** 10803**Reference Range:**

0-12 years 1350-6500 uL

13-150 years 800-4950 uL

**ABSOLUTE NEUTROPHIL COUNT****Frequency/TAT:****Tube:** Lavender**Specimen Required:** 3 ml. EDTA whole blood**Lab Section:** Hematology**CPT:** 85048**SRL#:** 1056**Reference Range:** 2000-8250 uL**ACE (See ANGIOTENSIN CONVERTING ENZYME)****ACETONE (Ketone)****Frequency/TAT:** Daily**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 82009**SRL#:** 6800**Reference Range:** None detected.

Specimen container must be tightly capped.

Hemolysis interferes with test.

**ACETONE, QUANTITATIVE GLC****Frequency/TAT:** Daily**Tube:** Pink - EDTA**Specimen Required:** 1ml whole blood,  
refrigerate**Lab Section:** Chemistry**CPT:** See below.**SRL#:** See below.**Reference Range:** None detected.

Units: g/dl

Do not remove the tube stopper. This test is  
not orderable, order Alcohol Group by GLC  
(SRL# 7700, CPT# 84600).**A  
B****ACETYLCHOLINE RECEPTOR ANTIBODY****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Serology**CPT:** 83519**SRL#:** 13712**Reference Range:** < 0.25 mol/lTransfer serum to a plastic transport tube. No  
isotopes administered 24 hours prior to  
venipuncture.**ACID FAST BACILLUS (AFB) PCR****Frequency/TAT:** 7 days**Tube:** Sterile container, leak-proof**Specimen Required:** 5 ml respiratory  
secretions, lavage fluid, pleural fluid,  
cerebrospinal fluid or tissue.**Lab Section:** Microbiology**CPT:** 87556**SRL#:** 16163**Reference Range:** NegativePCR to *M. tuberculosis* must be ordered along  
with AFB culture and smear. Performed and  
billed separately if indicated by culture.**ACID FAST BACILLUS (AFB) SMEAR****Frequency/TAT:** Daily**Tube:** Slide, culturette or sterile container**Specimen Required:** Pre-made air-dried slide,  
culturette or sterile container**Lab Section:** Microbiology**CPT:** 87206**SRL#:** 2751**Reference Range:** None detected.Separately billed when AFB Culture is ordered.  
See Culture, AFB.**ACID MUCOPOLYSACCHARIDE  
[GLUCOSAMINOGLYCANS (GAGS)]****Frequency/TAT:** M-F**Tube:** Urine**Specimen Required:** 20 ml random urine,  
freeze**Lab Section:** Chemistry**CPT:** 83864**SRL#:** 7500

A  
B

**Reference Range:** See report for interpretation. Send specimen on dry ice. Early morning specimens preferred. Patient's age must be included on the requisition.

**ACID PHOSPHATASE STAIN**

**Frequency/TAT:** M-F

**Tube:** Smear

**Lab Section:** Hematology

**CPT:** 88319

**SRL#:** 1460

**ACID PHOSPHATASE, PROSTATIC (PAP)**

**Frequency/TAT:** M-F

**Tube:** Gel or red

**Specimen Required:** 2 ml serum, refrigerate

**Lab Section:** Chemistry

**CPT:** 84066

**SRL#:** 7181

**Reference Range:** 0-2.7 ng/ml

Separate serum immediately. Plasma specimens are not accepted. Specimens should be free from hemolysis and lipemia.

**ACTH (ADRENOCORTICOTROPIC HORMONE)**

**Frequency/TAT:** Daily

**Tube:** Pink - EDTA

**Specimen Required:** 2 ml plasma, frozen

**Lab Section:** Chemistry

**CPT:** 82024

**SRL#:** 8202

**Reference Range:** 6-48 pg/ml

Draw between 8 and 10 a.m. Separate plasma and freeze immediately. Transport on ice. Thawed specimens, serum or heparinized plasma are not accepted.

**ACTIVATED PROTEIN C RESISTANCE (APC)**

**Frequency/TAT:** M-F

**Tube:** Blue and Lavender

**Specimen Required:** 2 ml citrated plasma, frozen and 3 ml EDTA whole blood.

**Lab Section:** Hematology

**CPT:** 85307

**SRL#:** 1259

**Reference Range:** > 2.0 ratio

Do not centrifuge specimen in lavender tube; send immediately to laboratory. If positive, test automatically reflexes to a Factor V Leiden.

**ADENOVIRUS, CULTURE (See CULTURE, ADENOVIRUS)****ADENOVIRUS TITER, CF**

**Frequency/TAT:** M-F

**Tube:** Gel

**Specimen Required:** 2 ml serum, refrigerate

**Lab Section:** Serology

**CPT:** 86603

**SRL#:** 8203

**Reference Range:** < 1:8

**Method:** CF

Comparison of acute and convalescent titers is of greatest diagnostic value. Non-fasting specimens may cause method interference. Hemolyzed, lipemic and gross bacterial contaminated specimens are not accepted.

**ADH (See ANTIDIURETIC HORMONE)****ADRENAL ANTIBODY**

**Frequency/TAT:** M-F

**Tube:** Gel

**Specimen Required:** 2 ml serum, refrigerate

**Lab Section:** Serology

**CPT:** 86255

**SRL#:** 8789

**Reference Range:** < 1:10

**Method:** IFA

**ADRENOCORTICOTROPIC HORMONE (See ACTH)****AFB CULTURE (See CULTURE ACID FAST BACILLUS)****AFB PCR (See ACID FAST BACILLUS PCR)****AFB SMEAR (See ACID FAST BACILLUS SMEAR)****AFP, FLUID (See ALPHA-FETOPROTEIN, FLUID)****AFP MATERNAL (See ALPHA-FETOPROTEIN, SERUM)****AFP TRIPLE SCREEN (See ALPHA-FETOPROTEIN TRIPLE SCREEN)****AFP TETRA SCREEN (See ALPHA-FETOPROTEIN TETRA SCREEN)****AGGREGATION PROFILE (PLATELET AGGREGATION)**

**Frequency/TAT:** M, W, F

**Lab Section:** Hematology

**CPT:** 85576 x 5

**SRL#:** 1230

**Reference Range:** See report for interpretation.

Test must be scheduled in advance with Hematology and must be drawn at SNGH, call

(757) 388-3164 to make appointment. Test includes aggregation studies with ADP, ADP (1:4 dilution), collagen, epinephrine, ristocetin and achidonic acid. Must be drawn with a syringe. Call Client Services at (757) 388-3621 for collection instructions. Maintain the specimen at room temperature and transport immediately. Do not centrifuge nor refrigerate.

#### **ALA (See AMINOLEVULINIC ACID)**

#### **ALANINE AMINOTRANSFERASE (ALT, SGPT)**

**Frequency/TAT:** Daily

**Tube:** Gel

**Specimen Required:** 1 ml serum, refrigerate

**Lab Section:** Chemistry

**CPT:** 84460

**SRL#:** 6922

**Reference Range:** 5-40 U/L

Grossly hemolyzed specimens are not accepted.

#### **ALBUMIN, SERUM**

**Frequency/TAT:** Daily

**Tube:** Gel

**Specimen Required:** 1 ml serum, refrigerate

**Lab Section:** Chemistry

**CPT:** 82040

**SRL#:** 6609

**Reference Range:**

0-4 days	2.8-4.4 g/dl
4 days-14 years	3.4-5.4 g/dl
14 - 18 years	3.2-4.5 g/dl
18+ years	3.5-5.0 g/dl

#### **ALBUMIN, CSF**

**Frequency/TAT:** M, W

**Tube:** CSF

**Specimen Required:** 1 ml CSF, refrigerate

**Lab Section:** Chemistry

**CPT:** 82042

**SRL#:** 7565

**Reference Range:** 11-48 mg/dl

#### **ALBUMIN, FLUID**

**Frequency/TAT:** Daily

**Tube:** Sterile Fluid

**Specimen Required:** 1 ml, refrigerate

**Lab Section:** Chemistry

**CPT:** 82042

**SRL#:** 6802

**Units:** g/dl

Specify fluid source. There are no established normals for fluids.

#### **ALCOHOL GROUP BY GLC (VOLATILES BY GLC)**

**Frequency/TAT:** Daily

**Tube:** Pink - EDTA

**Specimen Required:** 1 ml whole blood

**Lab Section:** Chemistry

**CPT:** 84600

**SRL#:** 7700

**Reference Range:** None detected.

**Units:** g/dl

Test includes Acetone, Ethanol, Methanol, and Isopropanol. Do not remove stopper from the tube.

#### **ALCOHOL, ETHANOL BY GLC**

**Frequency/TAT:** Daily

**Tube:** Pink - EDTA

**Specimen Required:** 1 ml whole blood

**Lab Section:** Chemistry

**CPT:** 82055

**SRL#:** 7702

**Reference Range:** None detected.

**Units:** g/dl

Do not remove the tube stopper. This test is orderable as a single test or as part of the Alcohol Group by GLC (SRL #7700, CPT: 84600).

#### **ALCOHOL, ISOPROPANOL BY GLC**

**Frequency/TAT:** Daily

**Tube:** Pink

**Specimen Required:** 1 ml whole blood

**Lab Section:** Chemistry

**CPT:** 84600

**SRL#:** 7704

**Reference Range:** None detected.

**Units:** g/dl

Do not remove the tube stopper. Includes alcohol isopropyl and acetone.

#### **ALCOHOL, METHANOL BY GLC**

**Frequency/TAT:** Daily

**Tube:** Pink - EDTA

**Specimen Required:** 1 ml whole blood

**Lab Section:** Chemistry

**CPT:** 84600

**SRL#:** 7701

**Reference Range:** None detected.

**Units:** %

A  
B

Do not remove the tube stopper. This test is orderable as a single test or as a part of the Alcohol Group by GLC (CPT: 84600).

**ALCOHOL, URINE ETHANOL**

**Frequency/TAT:** Daily  
**Tube:** Urine  
**Specimen Required:** 1 ml random  
**Lab Section:** Chemistry  
**CPT:** 82055  
**SRL#:** 10016  
**Reference Range:** None detected.  
**Units:** mg/dl

**ALDOLASE**

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 2 ml serum adult, 0.5 ml pediatrics  
**Lab Section:** Chemistry  
**CPT:** 82085  
**SRL#:** 6806  
**Reference Range:** 1.2-7.6 U/L  
 Hemolyzed specimens are not accepted. Separate and refrigerate serum as soon as possible. Transport on ice.

**ALDOMET (METHYLDOPA)**

**Frequency/TAT:** 1-3 days  
**Tube:** Red top  
**Specimen Required:** 4 ml serum, freeze  
**Lab Section:** Chemistry  
**CPT:** 82491  
**Reference Range:** 1-5 ug/ml  
**Toxic Value:** > 7 ug/ml  
 The specimen must be protected from light immediately after collection and during storage. Wrapping the tube in aluminum foil is acceptable. Separate and freeze serum as soon as possible. Transport on ice.

**ALDOSTERONE, SERUM**

**Frequency/TAT:** M, W, F  
**Tube:** Gel  
**Specimen Required:** 2 ml serum, refrigerate  
**Lab Section:** Chemistry  
**CPT:** 82088  
**SRL#:** 8204  
**Reference Range:**

Standing 4-31 ng/dl  
 Recumbent 1-16 ng/dl  
 Adrenal vein 200-800 ng/dl

Transfer to plastic transport tube. No isotopes administered 24 hours prior to vein puncture. Patients should be in either supine or upright position before and during blood draw. Indicate if specimen is from peripheral vein, adrenal, etc.

**ALDOSTERONE, URINE**

**Frequency/TAT:** T, Th  
**Tube:** Urine  
**Specimen Required:** 24-hour urine collection  
**Lab Section:** Chemistry  
**CPT:** 82088  
**SRL#:** 8205  
**Reference ranges:**

Normal diet 2-21 ug/24 hours  
 Low salt diet 17-44 ug/24 hours  
 High salt diet < 14 ug/24 hours

Collect a 24-hour urine with 1 g boric acid per 100 ml, keep refrigerated during and after collection period. Send the entire specimen to the laboratory. Patient should be on a diet containing 3 grams sodium per day for at least 2 weeks and preferably, 30 days prior to testing. Incomplete 24-hour collection and recently administered radioisotopes are cause for rejection.

**ALKALINE PHOSPHATASE**

**Frequency/TAT:** Daily  
**Tube:** Gel  
**Specimen Required:** 1 ml serum, refrigerate  
**Lab Section:** Chemistry  
**CPT:** 84075  
**SRL#:** 6614  
**Reference Range:**

	Male	Female
0-1 mo.	75-316 U/L	48-406 U/L
1 mo.-1 yr	32-383 U/L	124-341 U/L
1 yr-3 yrs	104-345 U/L	108-317 U/L
3 yrs-6 yrs	93-309 U/L	96-297 U/L
6 yrs-9 yrs	86-315 U/L	69-325 U/L
9 yrs-12 yrs	42-362 U/L	51-332 U/L
12 yrs-15 yrs	74-390 U/L	50-162 U/L
15 yrs-18 yrs	52-171 U/L	47-119 U/L
18 yrs-60 yrs	25-115 U/L	25-115 U/L
60 yrs-110 yrs	40-125 U/L	40-120 U/L

**ALKALINE PHOSPHATASE FRACTIONATION (See ALKALINE PHOSPHATASE ISOENZYMES)****ALKALINE PHOSPHATASE ISOENZYMES (ALKALINE PHOSPHATASE FRACTIONATION)**

**Frequency/TAT:** Daily  
**Tube:** Gel  
**Specimen Required:** 4 ml serum, refrigerate  
**Lab Section:** Chemistry

**CPT:** 84080**SRL#:** 10060**Reference Range:** See report for interpretation.**Method:** IEF

Transport on ice. A fasting specimen is recommended. Total alkaline phosphatase is included with the test.

**ALLERGY FOOD PANEL IgG****Frequency/TAT:** 3-5 days**Tube:** Gel**Specimen Required:** 2 ml serum**Lab Section:** Serology**CPT:** 86001 x 8**SRL#:** 13287**Reference Range:** Negative, 0-1670 mcg/mL. See report for normal values.**Method:** RIA

Panel includes Baker's yeast, Brewer's yeast, egg white, egg yolk, milk, wheat, corn and soybean.

**ALLERGY INHALANT SCREEN****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 3 ml serum, refrigerate**Lab Section:** Serology**CPT:** 86003 x 6**SRL#:** 13093**Reference Range:** Negative**Method:** Modified RAST.

Screen consists of six multiple inhalant discs for dust, molds, trees, animals, weeds and grass. The following reflex panels will be performed if results are Class I or higher. There will be an additional charge with CPT codes for each reflex. Negatives will not have reflex or additional charges. Grass reflex (CPT 86003 x 3): Bermuda grass, Kentucky Bluegrass, Johnson grass. Dust reflex (CPT 86001): D. farina. Tree reflex (CPT 86003 x 10): Maple, White Oak, American Elm, White Ash, Beech, Eastern Cottonwood, Sycamore, Black Walnut, Willow, White Hickory. Mold reflex (CPT 86003 x 4): Alternaria, Cladosporium, Penicillium, Stemphylium. Weed reflex (CPT 86003 x 8): Common Ragweed, Western Ragweed, English Plantain, Cocklebur, Lambsquarter, Goldenrod, Mugwort, Rough Pigweed. Animal reflex (CPT 86003 x 2): Cat Epithelium, Dog Epithelium; also called Epidermals.

**ALLERGY LATEX SPECIFIC IgE****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Serology**CPT:** 86003**SRL#:** 13650**Reference Range:** Normal negative.**Method:** Quantitative allergen specific IgE

test.

Latex has been shown to cause sensitivity reactions. Hypersensitivity reactions following exposure to latex have rapidly increased in the last few years. Latex is emerging as a potentially serious health problem largely because of the frequency by which individuals come in contact with latex and products containing latex. Exposure to latex through dermal contact, as seen with individuals who wear latex gloves, is evidenced by a range of symptoms from nonspecific pruritus to urticaria, usually localized to the zone of contact. Inhalation of airborne latex particles may result in conjunctivitis, rhinitis, inflammation, asthma, and in severe cases bronchospasm and anaphylactic shock. Systemic effects, such as tachycardia and cardiovascular collapse, may result from exposure to latex regardless of the mode.

**ALLERGY TESTING****Frequency/TAT:** 5-7 days**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerated (2 ml serum per 10 allergens)**Lab Section:** Serology**CPT:** Varies per profile/allergen**SRL#:** Varies per profile/allergen**Reference Range:** See report for normal values.

Please specify allergens to be tested, IgG or Dye and method. Contact Client Services at (757) 388-3621 for prices, SRL# and CPT coding.

**ALLERGY TESTING (ZONE 2)****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 5 ml serum, refrigerated**Lab Section:** Serology**CPT:** 86003 x 30**SRL#:** Miscellaneous referral test.

A  
B**Reference Range:** < 0.05 IU/mL Negative**Interpretation:**

Levels of specific IgE	mRAST Class	Descr. of Class
< 0.05	0	Negative
0.050-00.07	0/I	Equivocal
0.08 – 0.15	I	
0.16 – 0.50	II	Increasing
0.51 – 2.50	III	levels of
2.51 – 12.50	IV	specific IgE
12.51 – 62.50	V	antibody

**Method:** Quantitative allergen specific IgE test. Test includes *Alternaria tenuis*; American cockroach; American elm; *Aspergillus fumigatus*; Bahia grass; Bermuda grass; cat hair (standardized); *Cladosporium herbarum*; *Dermatophagoides farinae*; *ermatophagoides pteronyssinus*; dog epithelia; English plantain; Johnson grass, *Mucor racemosus*; mugwort; nettle; *Penicillium notatum*; pigweed, rough; ragweed, short; red cedar; red maple; red mulberry; sheep sorrel; *Stemphylium botryosum*; sweet gum; sycamore; timothy; white birch; white hickory; white oak.

**ALPHA1-ANTITRYPSIN****Frequency/TAT:** Sun-F**Tube:** Red**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 82103**SRL#:** 8399**Reference Range:** 90-200 mg/dl

Separate serum and refrigerate.

**ALPHA1-ANTITRYPSIN PHENOTYPE****Frequency/TAT:** M, T, Th**Tube:** Red**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 82104**SRL#:** 8246

**Reference Range:** See report for interpretation. Overnight fasting is preferred. Separate serum and refrigerate.

**ALPHA2-ANTIPLASMIN****Frequency/TAT:** 3 times a week**Tube:** Blue**Specimen Required:** 1 ml citrated plasma**Lab Section:** Hematology**CPT:** 85410**SRL#:** 1273**Reference Range:** 80-130%**ALPHA-FETOPROTEIN (AFP), FLUID****Frequency/TAT:** M-F**Tube:** Sterile plastic tube**Specimen Required:** 1 ml of amniotic fluid**Lab Section:** Chemistry**CPT:** 82106**SRL#:** 8209

**Reference Range:** See report for normal values. Normal values are shown on individual reports and are dependent on the following factors-each of these six conditions must be reported before results can be issued:

- Mother's weight
- Mother's date of birth
- Mother's race
- Gestational age and how determined
- If mother is diabetic, whether she is insulin dependent
- If twins or triplets are present

**ALPHA-FETOPROTEIN, SERUM (AFP MATERNAL)****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 3 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 82105**SRL#:** 10111

**Reference Range:** See report for normal values. This is a maternal serum AFP, do not use for AFP values in evaluating tumors. ABN may be required. Normal values are shown on individual reports and are dependent on the following factors-each of these six conditions must be reported before results can be issued:

- Mother's weight
- Mother's date of birth
- Mother's race
- Gestational age and how determined
- If mother is diabetic, whether she is insulin dependent
- If twins or triplets are present

**ALPHA-FETOPROTEIN TETRA SCREEN (AFP QUAD SCREEN)****Frequency/TAT:****Tube:** Gel**Specimen Required:** Serum, 3ml**Lab Section:** Chemistry**CPT:** 82105, 82677, 84702, 86336



**SRL#:** 10113**Reference Range:** See report

Test includes Alpha fetoprotein, dimenic inhibin A, hCG and unconjugated estriol. Grossly hemolyzed or grossly lipemic specimens are not accepted.

Normal values are shown on individual reports and are dependent on the following factors- each of these six conditions must be reported before results can be issued:

- Mother's weight
- Mother's date of birth
- Mother's race
- Gestational age and how determined
- If mother is diabetic, whether she is insulin dependent
- If twins or triplets are present

#### **ALPHA-FETOPROTEIN TRIPLE SCREEN (AFP TRIPLE SCREEN)**

**Frequency/TAT:****Tube:** Gel**Specimen Required:** Serum, 3ml**Lab Section:** Chemistry**CPT:** 82105, 82677, 84702**SRL#:** 10112**Reference Range:** See report

Test includes Alpha fetoprotein, hCG and unconjugated estriol. Grossly hemolyzed or grossly lipemic specimens are not accepted.

Normal values are shown on individual reports and are dependent on the following factors- each of these six conditions must be reported before results can be issued:

- Mother's weight
- Mother's date of birth
- Mother's race
- Gestational age and how determined
- If mother is diabetic, whether she is insulin dependent
- If twins or triplets are present

#### **ALPHA-FETAPROTEIN TUMOR MARKER**

**Frequency/TAT:** M-F**Tube:** Gel**Specimen Requires:** 1 ml serum**Lab Section:** Chemistry**CPT:** 82105**SRL#:** 10527**Reference Range:** 0.0-6.1 ng/ml

Grossly hemolyzed specimens are not accepted.

#### **ALPHA GLOBULIN GENE ANALYSIS (See ALPHA THALASSEMIA EVALUATION)**

#### **ALPHA THALASSEMIA EVALUATION (ALPHA GLOBULIN GENE ANALYSIS)**

**Frequency/TAT:** Weekly. Test requires 14 days to complete.

**Tube:** 2 Lavender

**Specimen Required:** 10 ml EDTA whole blood, room temperature

**Lab Section:** Hematology**CPT:** 83890**SRL#:** 1681**Reference Range:** Negative

Patient clinical history forms must accompany specimen.

#### **ALT (See ALANINE AMINOTRANSFERASE)**

#### **ALUMINUM, SERUM**

**Frequency/TAT:** Su-F**Tube:** Red

**Specimen Required:** 2 ml serum, room temperature

**Lab Section:** Chemistry**CPT:** 82108**SRL#:** 8787**Reference Range:** < 10 ug/L

Separate serum immediately. Hemolyzed specimens are not accepted.

#### **AMIKACIN**

**Frequency/TAT:** Daily**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 80150**SRL#:** 7100**Therapeutic Values:**

Trough 1-8 ug/ml

(Toxic &gt; 10 ug/ml) (Test # 10551)

Peak 25-35 ug/ml

(Toxic &gt; 35 ug/ml) (Test # 10552)

Centrifuge and separate serum within 1 hour of collection.

#### **AMIKACIN PEAK**

**Frequency/TAT:** Daily**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 80150**SRL#:** 10552



A  
B**Therapeutic Values:**

Trough 1-8 ug/ml (Toxic > 10 ug/ml)  
(Test # 10551)  
Peak 25-35 ug/ml (Toxic > 35 ug/ml)  
(Test # 10552)

Centrifuge and separate serum within 1 hour of collection.

**AMIKACIN TROUGH**

**Frequency/TAT:** Daily

**Tube:** Gel

**Specimen Required:** 1 ml serum, refrigerate

**Lab Section:** Chemistry

**CPT:** 80150

**SRL#:** 10551

**Therapeutic Values:**

Trough 1-8 ug/ml (Toxic > 10 ug/ml)  
(Test # 10551)  
Peak 25-35 ug/ml (Toxic > 35 ug/ml)  
(Test # 10552)

Centrifuge and separate serum within 1 hour of collection.

**AMINO ACID, QUALITATIVE URINE**

**Frequency/TAT:** M-F

**Tube:** Urine

**Specimen Required:** 5 ml, refrigerate

**Lab Section:** Chemistry

**CPT:** 82128

**SRL#:** 8212

**Reference Range:** See report for normal values. Random urine; morning urine preferred. No preservative required.

**AMINO ACID, QUANTITATIVE PLASMA**

**Frequency/TAT:** M-F

**Tube:** Green (Heparin)

**Specimen Required:** 4 ml plasma, frozen

**Lab Section:** Chemistry

**CPT:** 82131

**SRL#:** 8214

**Reference Range:** See report for normal values. Collect heparin tube on ice, separate and freeze plasma immediately. Transport specimen on ice. Early morning specimen is recommended. Reference ranges are age and sex dependent, please provide this information on the requisition.

**AMINO ACID, QUANTITATIVE URINE**

**Frequency/TAT:** M-F

**Tube:** Urine

**Specimen Required:** 10 ml aliquot, frozen

**Lab Section:** Chemistry

**CPT:** 82131

**SRL#:** 8215

**Reference Range:** See report for normal values. Collect a 24-hour urine specimen and

refrigerate. No preservative required. Send the entire specimen to the laboratory on ice. Reference ranges are age and sex dependent, please provide this information on the requisition.

**AMINOLEVULINIC ACID (ALA)**

**Frequency/TAT:** M, W, F

**Tube:** Urine

**Specimen Required:** 25 ml aliquot, freeze

**Lab Section:** Chemistry

**CPT:** 82135

**SRL#:** 8216

**Reference Range:** 1.5-7.5 mg/24-hour  
Collect a 24-hour urine specimen, add 30 ml of 33% glacial acetic acid into container prior to collection; wrap the container in aluminum foil, and put on ice during collection. Send the entire specimen to the laboratory.

**AMIODARONE SERUM OR PLASMA (CORDARONE)**

**Frequency/TAT:** Su-Sat

**Tube:** Red or EDTA

**Specimen Required:** 5 ml serum, refrigerate

**Lab Section:** Chemistry

**CPT:** 82491

**SRL#:** 7014

**Reference Range:**

Amiodarone	1.0-2.5 ug/ml
Desethylamiodarone	1.0-2.5 ug/ml
Potentially toxic value	> 3.5 ug/ml

Transfer separated serum or plasma to a plastic transport tube. Do not use barrier gel tube for collection. This test includes desethylamiodarone.

**AMITRIPTYLINE (ELAVIL)**

**Frequency/TAT:** M-Sat

**Tube:** Red

**Specimen Required:** 2 ml serum, refrigerate

**Lab Section:** Chemistry

**CPT:** 80152

**SRL#:** 7800

**Therapeutic Range:** 120-250 ng/ml

**Toxic Value:** > 500 ng/ml

Do not use a barrier gel tube. Test includes Nortriptyline.

**AMMONIA (NH3)**

**Frequency/TAT:** Daily (STAT)

**Tube:** Lavender on ice

**Lab Section:** STAT Chemistry

**CPT:** 82140

**SRL#:** 6205

**Reference Range:**

Male 28-80 ug/dl  
Female 19-65 ug/dl

Centrifuge and separate; send plasma on ice immediately. Collect green top on ice for WCH.

**AMNIOTIC FLUID CHROMOSOME STUDY**

**Frequency/TAT:** M-F, 10-14 Days

**Tube:**

**Specimen Required:** 20.0 cc whole amniotic fluid into two sterile conical 15.0 cc centrifuge tubes.

**Lab Section:** Cytogenetics

**CPT:** 88235, 88269, 88285, 88280

**SRL #:** 1604

**AMNIOTIC FLUID SCAN**

**Frequency/TAT:** Sun-F

**Tube:** Fluid

**Specimen Required:** 10 ml amniotic fluid, refrigerate

**Lab Section:** Chemistry

**CPT:** 82143

**SRL#:** 6807

**Reference Range:** Varies with gestational age. Collect 10 ml amniotic fluid in a brown sealed container protected from light. Specify weeks of gestation.

**AMOBARBITAL**

**Frequency/TAT:** Daily

**Tube:** Gel

**Specimen Required:** 2 ml serum, refrigerate

**Lab Section:** Chemistry

**CPT:** 82205

**SRL#:** 7733

**Reference Range:** 5-15 ug/ml

**Toxic Value:** > 15 ug/ml

Test is included in Barbiturate Quantitative, Serum (SRL# 7790)

**AMOXAPINE (ASCENDIN)**

**Frequency/TAT:** M-F

**Tube:** Red

**Specimen Required:** 3 ml serum, room temperature

**Lab Section:** Chemistry

**CPT:** 82491

**SRL#:** 7840

**Reference Range:** 0.2-0.4 ng/ml combined therapeutic. Protect from light, foil wrap. Do not use a barrier gel tube for collection. Test includes 8-hydroxyamoxapine.

**AMPHETAMINE QUANTITATIVE**

**Frequency/TAT:** M-F. Test takes 5 days to complete.

**Tube:** Urine

**Specimen Required:** 15 ml random

**Lab Section:** Chemistry

**CPT:** 82145

**SRL#:** 7793

**Reference Range:** None detected.

**Units:** ng/ml

**AMPHETAMINE SCREEN**

**Frequency/TAT:** Daily

**Tube:** Urine

**Specimen Required:** 25 ml random

**Lab Section:** Chemistry

**CPT:** 80101

**SRL#:** 7987

**Reference Range:** None detected.

Included in Drug Screen, Complete (CPT: 80100).

**AMYLASE**

**Frequency/TAT:** Daily

**Tube:** Gel

**Specimen Required:** 1 ml serum, refrigerate

**Lab Section:** Chemistry

**CPT:** 82150

**SRL#:** 6809

**Reference Range:** 20-120 U/L  
Hemolysis interferes with the test.

**AMYLASE ISOENZYMES**

**Frequency/TAT:** M, W, F

**Tube:** Gel

**Specimen Required:** 3 ml serum, refrigerate

**Lab Section:** Chemistry

**CPT:** 82664, 82150

**SRL#:** 8217

**Reference Range:**

Total 20-120 U/L

Pancreatic Fraction 0-55%

Salivary Fraction 0-70%

Macroamylase None Detected

Separate and refrigerate, transport on ice.

**AMYLASE, FLUID**

**Frequency/TAT:** Daily

**Tube:** Fluid

**Specimen Required:** 1 ml, refrigerate

**Lab Section:** Chemistry

**CPT:** 82150

**SRL#:** 6808

**Units:** U/L

Specify fluid source; there are no established normals for fluids.

**AMYLASE, URINE**

**Frequency/TAT:** Daily

**Tube:** Urine

**Specimen Required:** 10 ml aliquot random or timed urine, collected without preservatives, refrigerate

**Lab Section:** Chemistry

**CPT:** 82150

**SRL#:** 6810

A  
B**Reference Range:** 2-18 U/hr

A timed 2-hour specimen is preferred. A 24-hour specimen should be kept cold during collection.

**ANAFRANIL (See CLOMIPRAMINE)****ANA (ANTINUCLEAR ANTIBODY) SCREEN****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Serology**CPT:** 86038**SRL#:** 8017**Reference Range:** Negative**Method:** IFA

If the screen is positive, ANA titer will be performed and billed separately.

**ANA (ANTINUCLEAR ANTIBODY) TITER****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Serology**CPT:** 86039**SRL#:** 8010**Reference Range:** Negative**Method:** IFA

Titers and patterns are reported. ANA Titer will be separately billed from ANA Screen.

**ANAPLASMA PHAGOCYTOPHILUM ANTIBODIES (HGE AGENT)****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerated**Lab Section:** Serology**CPT:** 86666 x 2**SRL#:** Miscellaneous referral testing.**Reference Range:**

HGE IgG AB &lt; 1:64

HGE IgM AB &lt; 1:20

**Method:** IFA

Anaplasma phagocytophilum is the tick-borne agent causing human granulocytic ehrlichiosis (HGE).

**ANDROSTENEDIONE****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 82157**SRL#:** 8440**Reference Range:**

Male 57-265 ng/dl

Female 47-268 ng/dl

Prepubertal 0-60 ng/dl

Premenopausal 60-260 ng/dl

Postmenopausal 10-180 ng/dl

No isotopes may be administered 24 hours prior to venipuncture. Draw specimen in the morning, hemolyzed specimens are not accepted. Specimens should be collected one week before and one week after menstrual cycle.

**ANDROSTERONE, SERUM****Frequency/TAT:** M-F**Tube:** Red top**Specimen Required:** 3 ml serum, fasting**Lab Section:** Chemistry**CPT:** 82160**SRL#:** 8482**Reference Range:**

Male 22-86 ng/dl

Female 20-80 ng/dl

Collect specimen between 6 a.m.-8 a.m. Separate and freeze serum immediately, transport on ice. EDTA plasma is acceptable. Normal values assume that the patient has had no ACTH, steroid or thyroid medication for 48 hours prior to specimen collection.

**ANDROSTERONE, URINE****Frequency/TAT:** M-F**Tube:** Urine**Lab Section:** Chemistry**CPT:** See below.**SRL#:** 7620

This test is not orderable, order 17-Ketosteroids (CPT: 83586).

**ANGIOTENSIN CONVERTING ENZYME (ACE)****Frequency/TAT:** Sun-F**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 82164**SRL#:** 8521**Reference Range:** 12-68 U/L

Stop administration of captopril, enalapril or lisinopril for 12 hours prior to venipuncture.

**ANTIBIOTIC SENSITIVITY****Frequency/TAT:** 2-14 days**Specimen Required:** A pure, isolated organism**Lab Section:** Microbiology**CPT:** MIC (minimum inhibitory concentration)

#87186; BP (break point) #87186; Fungal

#87192; Anaerobic #87186; MBC (minimum

bacteriocidal concentration) #87187;  
Mycobacterial #87190  
SRL#: 2970

**ANTIMONY, URINE**

**Frequency/TAT:** 2-4 days  
**Tube:** Urine  
**Specimen Required:** 20 ml of a 24-hour urine or random, room temperature  
**Lab Section:** Chemistry  
**CPT:** 83018  
**SRL#:** 8245  
**Reference Range:** 0-9 ug/L

**ANTI-DIURETIC HORMONE (ADH, ARGININE VASOPRESSIN, AVP OR VASOPRESSIN)**

**Frequency/TAT:** Daily  
**Tube:** Pink-EDTA  
**Specimen Required:** 3 ml plasma and 1 ml serum, freeze  
**Lab Section:** Chemistry  
**CPT:** 84588  
**SRL#:** 8222  
**Reference Range:** 0.0-8.0 pg/ml  
Separate and freeze plasma as soon as possible. Label tube "plasma" and transport on ice.

**ANTI-HEPARIN ANTIBODIES (See HIT PANEL)****ANTINUCLEAR ANTIBODY (See ANA)****ANTI-PLATELET ANTIBODY (APA)**

**Frequency/TAT:** M-Th  
**Tube:** Yellow-ACD  
**Specimen Required:** 40 ml ACD whole blood  
**Lab Section:** Hematology  
**CPT:** 86022 x 5, 86023  
**SRL#:** 1237  
Collect four 10 ml yellow tubes (ACD Solution B). Do not freeze or refrigerate; do not centrifuge. The tubes must be received in the laboratory the same day as collected; no storage is possible. Collections made Monday-Thursday only. Send the entire specimen to the laboratory. Test includes Platelet associated IgG and Anti-Platelet antibody.

**ANTI-STREPTOLYSIN O ABS (See ASO ANTIBODIES)****ANTI-THROMBIN III**

**Frequency/TAT:** Daily  
**Tube:** Blue  
**Specimen Required:** 2 ml citrated plasma  
**Lab Section:** Hematology  
**CPT:** 85300  
**SRL#:** 1239  
**Reference Range:** 75 -125%

Centrifuge the specimen for 10 minutes as soon as possible after collection. Transfer the plasma to a labeled plastic tube and refrigerate. The specimen should be frozen if it will not be sent to the laboratory immediately.

**ANTI-THROMBIN III ANTIGEN**

**Frequency/TAT:** Daily  
**Tube:** Blue  
**Specimen Required:** 2 ml citrated plasma  
**Lab Section:** Hematology  
**CPT:** 85301  
**Reference Range:** 80-120%

Centrifuge the specimen for 10 minutes as soon as possible after collection. Transfer the plasma to a labeled plastic tube and refrigerate. The specimen should be frozen if it will not be sent to the laboratory immediately.

**ANTI-TPO (THYROID ANTI-MICROSOMAL ANTIBODY)**

**Frequency/TAT:** Daily  
**Tube:** Gel  
**Specimen Required:** 1 ml serum, refrigerate  
**Lab Section:** Serology  
**CPT:** 86376  
**SRL#:** 10022  
Specimens will be rejected if grossly hemolyzed, anticoagulated or contaminated with bacteria.

**APA (See ANTI-PLATELET ANTIBODY)****APC (See ACTIVATED PROTEIN C RESISTANCE)****APOLIPOPROTEIN A-1 AND B**

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 4 ml serum, refrigerate  
**Lab Section:** Chemistry  
**CPT:** 82172 x 2  
**SRL#:** 7376  
**Reference Range:**

A  
B**Apolipoprotein A-1**

Male 110-180 mg/dl

Female 110-205 mg/dl

**Apolipoprotein B**

Male 60-140 mg/dl

Female 50-130 mg/dl

**Ratio of B/A-1**

Male 0.55-0.78

Female 0.45-0.63

Record sex of patient on the requisition.

Patient must be fasting 12-14 hours. ABN may be required.

**APTT (ACTIVATED PARTIAL THROMBOPLASTIN TIME)****Frequency/TAT:** Daily**Tube:** Blue-3.2% sodium citrate**Specimen Required:** 5 ml citrated whole blood, refrigerate**Lab Section:** Hematology**CPT:** 85730**SRL#:** 1221**Reference Range:** See chart.

Tube must be filled to manufacturers recommended volume. Mix the tube by gentle inversion after collection. Clotted, hemolyzed specimens or tubes not filled to required volume will be rejected. Stable for 4 hours at 2-6 degrees Centigrade. Do not uncap.

**ARBOVIRAL (IgG) ANTIBODY PANEL****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Serology**CPT:** 86651, 86652, 86653, 86654**SRL#:** 8255**Method:** IFA**Reference Range:**

Includes the following viral encephalitis titers:

Eastern Equine &lt; 1:16

St. Louis &lt; 1:16

Western Equine &lt; 1:16

California La Cross &lt; 1:16

Comparison of acute and convalescent titers is of greatest diagnostic value. Accurate CPT coding may allow for reimbursement.

**ARBOVIRAL (IgM) ANTIBODY PANEL****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Serology**CPT:** 86651, 86652, 86653, 86654**SRL#:** Miscellaneous referral test.**Method:** IFA**Reference Range:** Negative for Eastern

Equine, St. Louis, Western Equine, California La Cross.

**ARGININE VASOPRESSIN (See ANTIDIURETIC HORMONE)****ARSENIC, BLOOD****Frequency/TAT:** M-F**Tube:** Royal Blue (EDTA whole blood tube)**Specimen Required:** 1 tube whole blood, room temperature**Lab Section:** Chemistry**CPT:** 82175**SRL#:** 8248**Reference Range:** 2-23 mcg/dl**ARSENIC, HAIR OR NAILS****Frequency/TAT:** M-F**Lab Section:** Chemistry**CPT:** 82175**SRL#:** 8249

**Reference Range:** See report for interpretation. Cut a finger thick bundle of hair as close to the skin as possible, tape the bundle in the center and draw an arrow pointing toward the tip end. Finger or toenail clippings are acceptable. 0.5 gram of hair or nails is required.

**ARSENIC, URINE****Frequency/TAT:** M-F**Tube:** Urine**Specimen Required:** 20 ml**Lab Section:** Chemistry**CPT:** 82175**SRL#:** 8252

**Reference Range:** See report for interpretation. Collect a 24-hour urine specimen without a preservative. The specimen should be kept refrigerated during and after the collection period. Do not allow the specimen to come in contact with metal. Urine arsenic is included in a heavy metal screen. Send the entire specimen to the laboratory. Patient must avoid all seafood for 72 hours prior to collection.

**ASCENDIN (See AMOXAPINE)****ASCORBIC ACID (VITAMIN C, SERUM)****Frequency/TAT:** T, Th**Tube:** Red or Gel**Specimen Required:** 2 ml serum, frozen**Lab Section:** Chemistry

**CPT:** 82180  
**SRL#:** 8257  
**Reference Range:** 0.4-2.0 mg/dl  
 Separate and freeze serum as soon as possible, transport on ice. Protect specimen from light by wrapping in foil immediately after collection and during transport.

#### **ASO ANTIBODIES (ANTI-STREPTOLYSIN O ABS)**

**Frequency/TAT:** Sun-F  
**Tube:** Gel  
**Specimen Required:** 2 ml serum, refrigerate  
**Lab Section:** Serology  
**CPT:** 86060  
**SRL#:** 8020  
**Reference Range:** 0-200 IU/ml  
**Method:** EIA  
 ASO titer is performed and billed separately if the Streptozyme screen is positive.

#### **ASPARTATE AMINOTRANSFERASE (AST, SGOT, GOT)**

**Frequency/TAT:** Daily  
**Tube:** Gel  
**Specimen Required:** 1 ml serum, refrigerate  
**Lab Section:** Chemistry  
**CPT:** 84450  
**SRL#:** 6613  
**Reference Range:**  

0-10 days	50-150 U/L
10 days-2 years	10-80 U/L
2 years-adult	10-37 U/L

 Hemolysis interferes with test. Grossly hemolyzed specimens will not be accepted.

#### **ASPERGILLUS ANTIBODY, CF**

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 2 ml serum, refrigerate  
**Lab Section:** Serology  
**CPT:** 86606  
**SRL#:** 8260  
**Reference Range:** < 1:8  
**Method:** CF  
 Non-fasting specimens cause method interference.

#### **ASPERGILLUS ANTIBODY, ID**

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 2 ml serum, refrigerate  
**Lab Section:** Serology  
**CPT:** See below.  
**SRL#:** 13620

**Reference Range:** Negative

**Method:** ID

Not orderable separately, order Fungal Antibody Screen, ID (CPT: 86606, 86635, 86612, 86698). Non-fasting specimens cause method interference.

#### **ASPERGILLUS, HYPER AND PNEUMONITIS (See HYPER PNEU ASPERGILL)**

#### **AST (GOT, SGOT) (See ASPARTATE AMINOTRANSFERASE)**

#### **AVENTYL (NORTRIPTYLINE)**

**Frequency/TAT:** Daily  
**Tube:** Red  
**Specimen Required:** 2 ml serum, refrigerate  
**Lab Section:** Chemistry  
**CPT:** 80182  
**SRL#:** 7801  
**Reference Range:** 50-150 ng/ml  
 Toxic Value: > 500 ng/ml  
 Separate serum and refrigerate. For therapeutic monitoring, collect specimen immediately prior to next dose. Do not use a gel barrier tube to collect specimen

## **B**

#### **BK VIRUS DNA PCR**

**Frequency/TAT:** Daily  
**Tube:** Pink  
**Specimen Required:** EDTA whole blood  
**Lab Section:** Serology  
**CPT:** 87799  
**SRL#:** 13628  
**Reference Range:** None detected. This assay cannot detect less than 200 copies/ml. Urine may also be used to test for BK virus. Specimen needed is 5 ml frozen urine.

#### **BABESIOSIS ANTIBODY TITER**

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 1 ml serum, refrigerate  
**Lab Section:** Serology  
**CPT:** 86753 x 2  
**SRL#:** 8264



A  
B**Reference Range:**

IgG &lt; 1:16

IgM &lt; 1:20

**Method:** IFA

Test includes IgG and IgM antibodies for  
Babesia microti.

**BACTERIAL LATEX ANTIGENS****Frequency/TAT:** Daily**Tube:** Sterile Container**Specimen Required:** 1-2 ml CSF.**Lab Section:** Microbiology**CPT:** 87802, 87899 x 4**SRL#:** 2820**Reference Range:** Negative

Test includes qualitative determination of  
antigens for H. Influenzae type B, S.  
pneumoniae, N. meningitidis and Group B  
Strep, as well as their subgroups.

**BARBITURATE QUANTITATIVE, SERUM****Frequency/TAT:** M-F. Test takes 2 days**Tube:** Gel**Specimen Required:** 3 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 82205**SRL#:** 7790**Reference Range:**

	Therapeutic	Toxic
Amobarb	5-15 ug/ml	> 15 ug/ml
Butabarb	8-17 ug/ml	> 19 ug/ml
Pentobarb	1-5 ug/ml	> 7 ug/ml
Phenobarb	15-35 ug/ml	> 40 ug/ml
Secobarb	1-5 ug/ml	> 9 ug/ml
Butalbital	1-10 ug/ml	> 14 ug/ml

**BARBITURATE QUANTITATIVE, URINE****Frequency/TAT:** M-F. Test takes 2 days to complete.**Tube:** Urine**Specimen Required:** 15 ml random**Lab Section:** Chemistry**CPT:** 80102**SRL#:** 10715**Reference Range:** None detected.

Test includes Butalbital, amobarb, pentobarb,  
secobarb, and phenobarb.

**BARBITURATE SCREEN, URINE****Frequency/TAT:** Daily**Tube:** Urine**Specimen Required:** 25 ml random**Lab Section:** Chemistry**CPT:** 80101**SRL#:** 7717**Reference Range:** None detected.

Included in Drug Screen, Complete (CPT:  
80100).

**BARTONELLA ANTIBODIES (CAT SCRATCH ABS)****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 2 ml serum**Lab Section:** Serology**CPT:** 86611 x 4**SRL#:** 13479**Reference Range:**

IgG &lt; 1:64

IgM &lt; 1:20

Test includes B. Hensalae IgG and IgM, B.  
Quintana IgG and IgM.

**BARTONELLA DNA, PCR****Frequency/TAT:** M-F**Tube:** Yellow (ACD)**Specimen Required:** Whole blood, room temperature**Lab Section:** Serology**CPT:** 87471**SRL#:** 13250**Reference Range:** Negative**Method:** PCR

Test includes DNA testing for Bartonella  
henselae and Bartonella quintana. Call for  
special pick-up. Sample must be received  
before 3 p.m. Monday through Friday. Also see  
Bartonella Antibodies.

**BASIC METABOLIC PANEL****Frequency/TAT:** Daily**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 80048**SRL#:** 6707

Test includes BUN, Carbon Dioxide, Chloride,  
Creatinine, Glucose, Potassium, Calcium, and  
Sodium. Hemolysis interferes with tests.

**BENCE JONES PROTEIN [See IMMUNOFIXATION (IFE), URINE]****BENZODIAZEPINE SCREEN, URINE****Frequency/TAT:** Daily**Tube:** Urine**Specimen Required:** 25 ml random**Lab Section:** Chemistry**CPT:** 80101**SRL#:** 7718





A  
B**Reference Range:** Negative**Method:** ID

Not orderable separately, order Fungal Antibody Screen, ID (CPT: 86606, 86698, 86635, 86612).

**BLOOD UREA NITROGEN (See BUN)****BNP (B-TYPE NATRIURETIC PEPTIDE)****Frequency/TAT:** Daily**Tube:** Lavender**Specimen Required:** 1 ml plasma**Lab Section:** Chemistry**CPT:** 83880**SRL#:** 11850**Reference Range:** 34.0-42.0 pg/ml

Levels less than 100 pg/ml have a high predictive value in excluding heart failure (decision value 100 pg/ml).

**BONE MARROW AND LEUKEMIC BLOOD****Frequency/TAT:** M-F, 7 days**CPT Codes:** 88237, 88264, 88280**SRL #:** 1614, 1613**BRUCELLA ANTIBODIES****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Serology**CPT:** 86622 x 2**SRL#:** 13715**Reference Range:**

Brucella abortus IgG &lt; 9 Panbio units

Brucella abortus IgM &lt; 9 Panbio units

**Method:** EIA

Test includes Brucella abortus IgG and Brucella abortus IgM antibodies.

**BUN (BLOOD UREA NITROGEN)****Frequency/TAT:** Daily**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 84520**SRL#:** 6602**Reference Range:**

0-1 year 4-19 mg/dl

1-15 years 8-21 mg/dl

15 years-adult 6-22 mg/dl

**BUSPIRONE (BUSPAR)****Frequency/TAT:** M-F**Tube:** Red

**Specimen Required:** 4 ml serum, plasma blood, room temperature

**Lab Section:** Chemistry**CPT:** 80299**SRL#:** 7103**Reference Range:** 1-6 ng/ml

Peak levels of 1-6 ng/ml occur 40-90 minutes after an oral dose of 20 mg. Do not use a barrier gel tube for collection.

**BUTABARBITAL****Frequency/TAT:** Tu-Sun**Tube:** Gel**Specimen Required:** 2 ml serum, frozen**Lab Section:** Chemistry**CPT:** 82205**SRL#:** 7732**Reference Range:** 8-17 ug/ml**Toxic Value:**  $\geq 20$  ug/ml**BUTALBITAL****Frequency/TAT:** Daily Tu-Sun**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 80101**SRL#:** 7710**Reference Range:** 1-10 ug/mlToxic Value:  $\geq 15.0$  ug/ml

Therapeutic range is not established.

## C

**C-PEPTIDE, SERUM****Frequency/TAT:** M-Sat**Tube:** Gel**Specimen Required:** 2 ml serum, freeze**Lab Section:** Chemistry**CPT:** 84681**SRL#:** 8281**Reference Range:**

0-9 years 0-3.3 ng/ml

10-16 years 0.4-3.3 ng/ml

&gt; 16 years 1.1-5.0 ng/ml

The patient should fast for 12 hours or more.

Collect specimen in a chilled tube and transport on ice.

**C-REACTIVE PROTEIN (CRP)****Frequency/TAT:** Daily**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 86140**SRL#:** 8036

**Reference Range:** 0-0.5 mg/dl

**CRP-HS (Cardiac CRP)**

**Frequency/TAT:** Daily

**Tube:** Gel

**Specimen Required:** 1 ml serum, refrigerate

**Lab Section:** Chemistry

**CPT:**

**SRL:** 11820

**Reference Range:** See report.

**C1 ESTERASE INHIBITOR**

**Frequency/TAT:** T, F

**Tube:** Gel

**Specimen Required:** 2 ml serum, freeze

**Lab Section:** Serology

**CPT:** 86160

**SRL#:** 8328

**Reference Range:**

Male 30.0-41.0 mg/dL

Female 21.0-39.0 mg/dL

**Method:** EIA

Specimen should be separated immediately, frozen and shipped on dry ice.

**C1 ESTERASE INHIBITOR FUNCTIONAL**

**Frequency/TAT:** T, F

**Tube:** Gel

**Specimen Required:** 2 ml serum, freeze

**Lab Section:** Serology

**CPT:** 86161

**SRL#:** 8382

**Reference Range:** Normal > 67%

**Method:** EIA Specimen should be separated immediately, frozen and shipped on dry ice.

**C1Q BINDING ASSAY**

**Frequency/TAT:** M, W

**Tube:** Gel

**Specimen Required:** 2 ml serum, freeze

**Lab Section:** Serology

**CPT:** 86160

**SRL#:** 86332

**Reference Range:** < 4.0 uEq/ml

**Method:** EIA

Specimen should be separated immediately, frozen and shipped on dry ice.

**C2 COMPLEMENT**

**Frequency/TAT:** M, F

**Tube:** Gel

**Specimen Required:** 2 ml serum, freeze immediately

**Lab Section:** Serology

**CPT:** 86160

**SRL#:** 8315

**Reference Range:** 1.6-4.0 mg/dl

**Method:** RID

Specimen should be separated immediately, frozen and shipped on dry ice.

**C3 COMPLEMENT**

**Frequency/TAT:** Daily

**Tube:** Gel

**Specimen Required:** 1 ml serum, refrigerate

**Lab Section:** Chemistry

**CPT:** 86160

**SRL#:** 7530

**Normal range:**

0-1 year 53-124 mg/dl

1 year-adult 83-177 mg/dl

**C4 COMPLEMENT**

**Frequency/TAT:** Daily

**Tube:** Gel

**Specimen Required:** 1 ml serum, refrigerate

**Lab Section:** Chemistry

**CPT:** 86160

**SRL#:** 7540

**Reference Range:**

0-1 year 7-25 mg/dl

1-2 years 12-40 mg/dl

2-4 years 9-35 mg/dl

4-14 years 12-35 mg/dl

14-150 years 10-40 mg/dl

**CA 15-3**

**Frequency/TAT:** M-F

**Tube:** Gel

**Specimen Required:** 1 ml serum

**Lab Section:** Chemistry

**CPT:** 86300

**SRL#:** 7102

**Reference Range:** 0.0-32.4 U/ml

The CA 15-3 assay value, regardless of level, should not be interpreted as absolute evidence for the presence or absence of malignant disease.

**CA 125**

**Frequency/TAT:** M-Sat

**Tube:** Gel

**Specimen Required:** 1 ml serum, refrigerate

**Lab Section:** Chemistry

**CPT:** 86304

**SRL#:** 8616

**C  
D**

C  
D**Reference Range:** 0.0-35.0 U/ml

CA 125 is not specific for tumors of the ovary and cannot distinguish benign from malignant tumors. It is not a screening test. ABN may be required.

**CA 19-9****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 86301**SRL#:** 7789**Reference Range:** 0.0-35.0 units/ml

ABN may be required.

**CA 27-29****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 86300**SRL#:** 10003**Reference Range:** 0.0-38.6 U/ml

ABN may be required.

**CADMIUM, URINE****Frequency/TAT:** M-F**Tube:** Urine**Specimen Required:** 25 ml random**Lab Section:** Chemistry**CPT:** 82300**SRL#:** 8282**Reference Range:** < 3.0 ug/g creatinine

Do not allow the specimen to come in contact with metal. 24-hour cadmium urine must be collected in a plastic container, no preservative.

**CALCITONIN****Frequency/TAT:** M, W, F**Tube:** Gel**Specimen Required:** 2 ml serum, freeze**Lab Section:** Chemistry**CPT:** 82308**SRL#:** 8383**Reference Range:**

Male 0 - 8.4 pg/ml

Female 0 - 5.0 pg/ml

Patient should be fasting. Separate serum and freeze as soon as possible, transport on ice.

**CALCIUM****Frequency/TAT:** Daily**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 82310**SRL#:** 6619**Reference Range:**

0-10 days 7.6-10.4 mg/dl

10 days-2 yrs 9.0-11.0 mg/dl

2 years-12 yrs 8.8-10.8 mg/dl

Male 12 yrs-adult 8.4-10.4 mg/dl

Female 12 yrs-adult 8.4-10.5 mg/dl

**Critical values:**

0- 1 year old &lt; 7.0 mg/dl

or &gt; 11.4 mg/dl

1 – Adult &lt; 7.0 mg/dl

or &gt; 11.9 mg/dl

Hemolysis interferes with test. Fasting specimen is desirable.

**CALCIUM, IONIZED****Frequency/TAT:** Daily**Tube:** Green**Specimen Required:** 1 ml plasma, freeze**Lab Section:** Chemistry**CPT:** 82330**SRL#:** 10850**Reference Range:** 4.4 -5.4 mg/dl

Collect one full green top tube, centrifuge, and freeze plasma as soon as possible. Do not open tube. Transport on ice. ABN may be required. Red SST is also acceptable.

**CALCIUM, URINE****Frequency/TAT:** Daily**Tube:** Urine**Specimen Required:** 10 ml refrigerate**Lab Section:** Chemistry**CPT:** 82340**SRL#:** 6821**Reference Range:** 110-250 mg/24-hour

10 ml aliquot of a random or timed urine collected with preservative. Collect 24-hour urine in jug with 10 ml 6N HCL. A 24-hour specimen should be kept cold during collection. Send the entire 24-hour collection or note the 24-hour volume.

**CANDIDA ANTIBODY PANEL****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 2 ml serum**Lab Section:** Serology**CPT:** 86628 x 3**SRL#:** 13276**Reference Range:** < 1.0 u/ml

Test includes Candida IgG, Candida IgM, and Candida IgA antibodies.

**CANDIDA M5 IgG (ALLERGY)****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 2ml serum**Lab Section:** Serology**CPT:** 86001**SRL#:** 13278

**Reference Range:** < 1,670  
**Method:** RAST

#### **CANDIDA M5 IgE (ALLERGY)**

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 2 ml serum  
**Lab Section:** Serology  
**CPT:** 86003  
**SRL#:** 13277  
**Reference Range:** < 0.05 lu/ml  
**Method:** RAST

#### **CANNABINOID QUANTITATIVE, URINE**

**Frequency/TAT:** M-F Test takes 2 days to complete.  
**Tube:** Urine  
**Specimen Required:** 15 ml random  
**Lab Section:** Chemistry  
**CPT:** 80102  
**SRL#:** 7724  
**Reference Range:** None detected.

#### **CANNABINOID SCREEN, URINE**

**Frequency/TAT:** Daily  
**Tube:** Urine  
**Specimen Required:** 25 ml random  
**Lab Section:** Chemistry  
**CPT:** 80101  
**SRL#:** 8335  
**Reference Range:** None detected.  
 Included in Drug Screen, Complete and Drug Screen, Basic.

#### **CARBAMAZEPINE (TEGRETOL)**

**Frequency/TAT:** Daily  
**Tube:** Gel  
**Specimen Required:** 1 ml serum, refrigerate  
**Lab Section:** Chemistry  
**CPT:** 80156  
**SRL#:** 7905  
**Reference Range:**  
 4-12 ug/ml  
 Toxic Value: > 12 ug/ml  
 Centrifuge and separate serum within 1 hour of collection. Green top (lithium heparin) is also acceptable for collection.

#### **CARBON DIOXIDE**

**Frequency/TAT:** Daily  
**Tube:** Gel  
**Specimen Required:** 1 ml serum, refrigerate  
**Lab Section:** Chemistry  
**CPT:** 82374  
**SRL#:** 6608

**Reference Range:** 23-30 mmol/L

**Critical Values:** < 15 mmol/L or > 50 mmol/L

#### **CARCINOEMBRYONIC ANTIGEN (See CEA)**

#### **CARDIOLIPIN ANTIBODY PANEL**

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 2 ml serum, refrigerate  
**Lab Section:** Serology  
**CPT:** 86147 x 3  
**SRL#:** 8639  
**Reference Range:**

	IgG (GPL)	IgM (MPL)	IgA (APL)
Negative	0-10	0-9	0-12

**Method:** EIA

Antibody to Cardiolipin is most commonly associated with cerebrovascular accident, myocardial infarction, deep vein thrombosis and idiopathic abortion. These features are referred to as the anti-phospholipid syndrome, and may also be associated with anti-lupus anticoagulant antibodies. Appropriate CPT coding may allow for the reimbursement of the above code three times; please verify this with your provider.

#### **CAROTENE**

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 3 ml serum, frozen  
**Lab Section:** Chemistry  
**CPT:** 82380  
**SRL#:** 6828  
**Reference Range:** 10-85 ug/dl  
 Patient must be fasting, hemolysis unacceptable. Protect the specimen from light by wrapping the tube with aluminum foil.

#### **CATECHOLAMINE, FRACTION PLASMA**

**Frequency/TAT:** Sun-F  
**Tube:** Pink  
**Specimen Required:** 2 tubes, EDTA (4 ml ea.)  
**Lab Section:** Chemistry  
**CPT:** 82384  
**SRL#:** 8289

**C  
D**

C  
D**Reference Range:**

Total:	< 643 pg/ml
Norepinephrine	0-400 pg/ml
Epinephrine	0-100 pg/ml
Dopamine	0-143 pg/ml

Use pre-chilled EDTA tubes, separate plasma immediately and freeze the plasma. Transport the specimen on ice. It is recommended that the patient be resting and supine for 30 minutes prior to phlebotomy. Patient should be fasting for 4 or more hours without smoking.

**CATECHOLAMINE FRACTION, URINE****Frequency/TAT:** M-F**Tube:** Urine**Lab Section:** Chemistry**CPT:** 82384**SRL#:** 8279**Reference Range:**

Norepinephrine	0-140 ug/24 hours
Epinephrine	0-24 ug/24 hours
Dopamine	65-610 ug/24 hours

Collect a 24-hour urine specimen in a brown urine container. Add 30 ml 6 N HCl to the container prior to collection. Refrigerate during collection. Send the entire specimen to the laboratory.

**CAT SCRATCH ANTIBODIES (See BARTONELLA ANTIBODIES)****CBC WITH DIFFERENTIAL****Frequency/TAT:** Daily**Tube:** Lavender**Specimen Required:** 5 ml tube with 3.0 ml draw is preferred**Lab Section:** Hematology**CPT:** 85025**SRL#:** 1001

**Reference Range:** See Hematology Standardized Reference Ranges on page 95. Mix the tube by inversion after collection and refrigerate; clotted, hemolyzed or underfilled specimens will be rejected. One microtainer is acceptable for capillary collection.

**CBC WITHOUT DIFFERENTIAL****Frequency/TAT:** Daily**Tube:** Lavender**Specimen Required:** 5 ml tube with 3.0 ml draw is preferred**Lab Section:** Hematology**CPT:** 85027**SRL#:** 12100

**Reference Range:** See Hematology Standardized Reference Ranges on page 95. Mix the tube by inversion after collection and refrigerate; clotted, hemolyzed or underfilled specimens will be rejected. One microtainer is acceptable for capillary collection.

**CCP AB (See CITRULLINE ANTIBODY)****CD4/CD8****Frequency/TAT:** M-F**Tube:** Yellow and lavender**Specimen Required:** 2 ml ACD-A and 2 ml EDTA**Lab Section:** Flow Cytometry**CPT:** 86361, 86360**SRL#:** 15014

Testing not available on weekends or holidays. Specimens for testing should not be collected between Friday noon and Sunday noon and must be received by noon on Friday. Test includes CD4% and absolute, CD8% and absolute, CD4/CD8 ratio. Order CD4/CD8 and CBC with differential or send CBC with differential results collected within 24 hours of CD4/CD8 collection. Use the fluorescent-labeled transport bags if available. The specimen must not be frozen or refrigerated; store at room temperature.

**CD4 ONLY (WITHOUT CD8) or CD4 WITH ABS.LYM)****Frequency/TAT:** M-F**Tube:** Yellow and lavender**Specimen Required:** 2 ml ACD-A and 2 ml EDTA**Lab Section:** Flow Cytometry**CPT:** 86361**SRL#:** 5080

Testing not available on weekends or holidays. Test includes CD4% and absolute. Order CD4 and CBC with differential or send CBC with differential results collected within 24 hours of CD4 collection. Use the fluorescent-labeled transport bags if available. The specimen must not be frozen or refrigerated; store at room temperature.

**CEA (CARCINOEMRYONIC ANTIGEN)****Frequency/TAT:** Daily**Tube:** Gel**Specimen Required:** 2 ml serum**Lab Section:** Chemistry**CPT:** 82378







C  
D**CELL COUNT, BODY FLUID (NON-CSF)**

**Frequency/TAT:** Daily  
**Tube:** Lavender  
**Specimen Required:** 2 ml fluid, refrigerate  
**Lab Section:** Hematology  
**CPT:** 89050  
**SRL#:** 12756  
 Specify fluid source.

**CENTROMERE ANTIBODY**

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 2 ml serum, refrigerate  
**Lab Section:** Serology  
**CPT:** 86039  
**SRL#:** 8254  
**Reference Range:** Negative  
**Method:** IFA  
 Centromere antibody part of ANA titer, not orderable separately. Order ANA titer test #8010

**CERULOPLASMIN**

**Frequency/TAT:** M-F  
**Tube:** Red (chilled tube)  
**Specimen Required:** 1 ml serum, refrigerate  
**Lab Section:** Chemistry  
**CPT:** 82390  
**SRL#:** 8398  
**Reference Range:**  

Male	16.2-35.6 mg/dl
Female	17.9-53.3 mg/dl

 Draw in chilled tube and keep specimen on ice.

**CHLAMYDIA AB IgG**

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 2 ml serum, refrigerate  
**Lab Section:** Serology  
**CPT:** 86631  
**SRL#:** 8510  
**Reference Range:** < 0.91 index  
**Method:** EIA  
 Test aids in diagnosis of chlamydial infection. Assay detects IgG antibodies to C. trachomatis, C. pneumoniae, C. psittaci. Test does not differentiate.

**CHLAMYDIA TRACHOMATIS IgM ANTIBODY**

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 1 ml serum, refrigerate  
**Lab Section:** Serology  
**CPT:** 86632  
**SRL#:** Miscellaneous referral test.

**Reference Range:** < 1:8**Method:** IFA**CHLAMYDIA AB TITER, CF**

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 2 ml serum, refrigerate  
**Lab Section:** Serology  
**CPT:** 86631  
**SRL#:** 8199  
**Reference Range:** < 1:8  
**Method:** CF  
 Test does not distinguish between species, test is a Chlamydia group antibody screen. A fourfold or greater increase in titer between acute and convalescent specimens is of greatest diagnosis value.

**CHLAMYDIA CULTURE (See CULTURE, CHLAMYDIA TRACHOMATIS)****CHLAMYDIA DFA (CHLAMYDIA TRACHOMATIS)**

**Frequency/TAT:** M-F  
**Tube:** Slide  
**Specimen Required:** Slide, specify source on requisition.  
**Lab Section:** Serology  
**CPT:** 87206  
**SRL#:** 8018  
**Reference Range:** Negative  
**Method:** DFA  
 Fluorescent antibody staining and microscopic examination of smear on slide. Sources: smears from eyes, urethra, cervix, rectum, and nasopharyngeal. Slides must be fixed with methanol. Specimen quality may be noted by amount of cells on smear. Call Client Services at (757) 388-3621 for collection kit.

**CHLAMYDIA DIFFERENTIAL AB PANEL (CHLAMYDIA TITER)**

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 3 ml serum, refrigerate  
**Lab Section:** Serology  
**CPT:** 86331 x 6, 86332 x 3

**SRL#:** 13066**Reference Range:**

IgG < 1:64 Antibody not detected.  
 IgA < 1:16 Antibody not detected.  
 IgM < 1:10 Antibody not detected.

**Method:** IFA

Panel includes Chlamydia trachomatis (IgG, IgM, IgA), Chlamydia pneumoniae (IgG, IgM, IgA) and Chlamydia psittaci (IgG, IgM, IgA). The serologic detection of Chlamydia infection is complicated by the presence of cross-reactive antibody between Chlamydia species, non-specific stimulation of anti-Chlamydia antibodies or past exposure to multiple Chlamydia species. To differentiate the species of Chlamydia infection, a panel of Chlamydia is tested for the determination of specific antibody titers. IgM titers of 1:10 or greater are indicative of recent infection with that specific Chlamydia agent, however, anti-Chlamydia IgM antibody is very cross-reactive and will often demonstrate titers to multiple Chlamydia species. Any IgG titer may indicate past exposure to that particular species. Cross-reactive antibody or the presence of non-specifically stimulated anti-Chlamydia IgG antibody when seen is typically less than 1:128. Infection with a particular Chlamydia species typically yields antibody titers, which are higher than antibody titers to the non-infecting species. IgG titers in recently infected individuals are typically equal or greater than 1:512. IgA titers may help to identify the infecting Chlamydia species when cross-reactive IgG is present. IgA is typically present at low titers during primary Chlamydia infection, but may be elevated in recurrent exposures or in chronic infection.

### **CHLAMYDIA TITER (See CHLAMYDIA DIFFERENTIAL AB PANEL)**

### **CHLAMYDIA BY AMPLIFICATION**

**Frequency/TAT:** M-F**Tube:** Gen-Probe Aptima unisex swab collection kit or Gen-Probe Aptima urine specimen transport kit**Specimen Required:** 20 ml first void urine (patient should not have urinated for 1 hour

prior to specimen collection) or endocervical/urethral swab specimen, in appropriate transport media, refrigerated or at room temperature.

**Lab Section:** Serology**CPT:** 87491**SRL#:** 13716 (cervical or urethral), #13350 (urine)**Reference Range:** Negative**Method:** Nucleic acid amplification

Causes for rejection include: bacterial swab specimens, transports with multiple swabs, transports with white cleansing swabs, specimens received with seal on cap broken, perforated, or leaking containers, dry specimens, specimens submitted in fixative or additives, specimens received in expired transport media or incorrect transport device, inappropriate specimen transport conditions, specimens received after prolonged delay in transport, urine not transferred in Aptima transport tube within 24 hours.

### **CHLAMYDIA/GC BY AMPLIFICATION**

**Frequency/TAT:** M-F**Tube:** Same as above test

**Specimen Required:** 20 ml first void urine (patient should not have urinated for 2 hours prior to specimen collection) or endocervical/urethral swab specimen, in appropriate transport media, refrigerated or at room temperature.

**Lab Section:** Serology**CPT:** 87491 Chlamydia, 87591 GC**SRL#:** 13718 (cervical or urethral), #13349 (urine)**Reference Range:** Negative.**Method:** Nucleic acid amplification

Causes for rejection include: bacterial swab specimens, transports with multiple swabs, transports with white cleansing swabs, specimens received with seal on cap broken, perforated, or leaking containers, dry specimens, specimens submitted in fixative or additives, specimens received in expired transport media or incorrect transport device, inappropriate specimen transport conditions, specimens received after prolonged delay in transport, urine not transferred in Aptima transport tube within 24 hours.

### **CHLORAMPHENICOL (CHLOROMYCETIN)**

**Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 1 ml serum, room temperature**Lab Section:** Chemistry**CPT:** 82415

**C**  
**D**

C  
D**SRL#:** 8296**Reference Range:** 5-20 mcg/ml

Toxic Value: &gt; 26 ng/ml

Hemolysis will interfere with the procedure.

Protect from light by wrapping in aluminum foil.

**CHLORDIAZEPOXIDE (LIBRIUM)****Frequency/TAT:** Tues.-F**Tube:** Red**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 80154**SRL#:** 7910**Reference Range:** 0.1-3.5 ug/mlIncluded in Benzodiazepine Quantitative,  
Serum (CPT: 80102).**CHLORIDE, SERUM****Frequency/TAT:** Daily**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 82435**SRL#:** 6607**Reference Range:**

0-1 month 98-113 mmol/L

1 month-adult 98-110 mmol/L

**Critical Value:** ≥ 115 mmol/L**CHLORIDE, FLUID****Frequency/TAT:** Daily**Tube:** Fluid**Specimen Required:** 1 ml fluid, refrigerate**Lab Section:** Chemistry**CPT:** 82438**SRL#:** 6823**Units:** mmol/L. Specify fluid source; there are  
no established normals for fluids.**CHLORIDE, URINE****Frequency/TAT:** Daily**Tube:** Urine**Specimen Required:** 10 ml, refrigerate**Lab Section:** Chemistry**CPT:** 82436**SRL#:** 6825**Reference Range:** 110-250 mmol/24-hour10 ml aliquot of a random or timed urine  
collected without preservative. A 24-hour  
specimen should be kept cold during collection.  
Send the entire 24-hour collection.**CHLORPROMAZINE (THORAZINE)****Frequency/TAT:** W, F**Tube:** Red**Specimen Required:** 3 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 84022**SRL#:** 7761**Reference Range:** 30-300 ng/ml**Critical value:** > 750 ng/ml

Do not use a barrier gel tube for collection.

**CHOLESTEROL****Frequency/TAT:** Daily**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 82465**SRL#:** 6617**Reference Range:**

Desirable 110-200 mg/dl

Borderline 200-239 mg/dl

High ≥ 240 mg/dl

Patient should be fasting; bilirubin interferes  
with the test. Biological variation of serum  
cholesterol is high. Before therapeutic  
intervention, consider the average of 3  
cholesterol values separately drawn over 2-3  
months. ABN may be required.**CHOLESTEROL PROFILE, COMPLETE  
(See LIPID PANEL, INITIAL OR COMPLETE)****CHOLINESTERASE, RBC****Frequency/TAT:** M-F**Tube:** Pink-EDTA**Specimen Required:** 5 ml whole blood,  
refrigerate**Lab Section:** Chemistry**CPT:** 82482**SRL#:** 8297**Reference Range:** 5,300-10,000 units/LDo not centrifuge nor separate cells from  
plasma.**CHORIONIC GONADOTROPIN, HCG  
(See BETA-HCG)****CHORIONIC VILLI SAMPLING****Frequency/TAT:** M-F, 10-14 days**Specimen Required:** 15-30 mg of Chorionic  
villi in a 15 ml sterile, conical centrifuge tube  
containing transport media supplied by  
Cytogenetics Laboratory.**Lab Section:** Cytogenetics**CPT:** 88235, 88267, 88285, 88280**SRL#:** 1605Transport specimen to laboratory as soon as  
possible. If transport is delayed, specimen  
should be refrigerated, but **NOT FROZEN**.**CHROMIUM, PLASMA****Frequency/TAT:** M-F**Tube:** Royal blue-EDTA**Lab Section:** Chemistry**CPT:** 82495**SRL#:** 10828**Reference Range:** 0.1-2.1 ug/L

Separate immediately after collection. Keep specimen at room temperature.

#### CHROMIUM, URINE

**Frequency/TAT:** W, F

**Tube:** Urine

**Lab Section:** Chemistry

**CPT:** 82495

**SRL#:** 8299

**Reference Range:** Interpretation is included with the report.

Random urine without preservative is acceptable.

#### CHROMOSOME ANALYSIS, AMNIOTIC FLUID

**Frequency/TAT:** 14 days

**Tube:** 2 sterile 15 cc conical centrifuge tubes

**Specimen Required:** 20 cc of sterilely collected fluid

**Lab Section:** Cytogenetics

**CPT:** 88235, 88269, 88280, 88285, 88291, Prenatal and trisomy screen: 88271 x 5, 88275, 88291

**SRL#:** 01604

**Reference Range:** See report.

All specimens must be submitted in an appropriately labeled and well-constructed container with secure lid to prevent leakage during transport. All specimen containers must be labeled with the patient's name and must be accompanied by the chromosome request form. This form must be filled out with the patient's gestational age, date of birth, gravida, indication for the study, date and time specimen collected.

#### CHROMOSOME ANALYSIS, BLOOD/LYMPH

**Frequency/TAT:** 14 days

**Tube:** Green (sodium heparin)

**Specimen Required:** 3.0 cc adults, 1.0-2.0 cc newborns

**Lab Section:** Cytogenetics

**CPT:** 88230, 88262, 88291

Microdeletions FISH: 88271, 88273, 88291

Subtelomere analysis: 88271 x 14, 88274,

88291, Hi Resolution analysis: 88289

**SRL#:** 1601

**Reference Range:** See report.

All specimens must be submitted in an appropriately labeled and well-constructed container with secure lid to prevent leakage during transport. All specimen containers must be labeled with the patient's name and must be accompanied by the chromosome request form. This form must be filled out with the patient's clinical information and the indication for the study.

#### CHROMOSOME ANALYSIS, LEUKEMIC BLOOD

**Frequency/TAT:** 7 days

**Tube:** Green (sodium heparin)

**Specimen Required:** 5.0 cc blood adults, 1.0-2.0 cc blood newborns

**Lab Section:** Cytogenetics

**CPT:** 88237, 88264, 88291

FISH analysis: 88271 x 22, 88275, 88291 per set

**SRL#:** 01614

**Reference Range:** See report.

The patient should have a white blood count of 15,000 or higher with approximately 5% blasts. The chromosome study request form must be completed with the patient's clinical information, the indication for the study, date and time collected.

#### CHROMOSOME ANALYSIS, BONE MARROW

**Frequency/TAT:** 10 -14 days

**Tube:** Green (sodium heparin)

**Specimen Required:** 1.0-2.0 cc of bone marrow aspirate adults, 0.5-1.0 cc newborns

**Lab Section:** Cytogenetics

**CPT:** 88237, 88264, 88291

FISH analysis: 88271 x 2, 88275, 88291 per set

**SRL#:** 01613

**Reference Range:** See report.

The chromosome study request form must be completed with the patient's clinical information, the indication for the study and date and time of collection.

#### CHROMOSOME ANALYSIS, POC/TISSUE/SKIN

**Frequency/TAT:** 28 days

**Specimen Required:** 0.5 cm for skin biopsy into a specimen cup containing RPMI media or Hank's Solution; 20 mg chorionic villi and/or 0.5 cm for tissue sample such as lung, skin, or pericardium

C  
D

**Lab Section:** Cytogenetics**CPT:** 88233, 88262, 88291**SRL#:** 01606**Reference Range:** See report.

All specimens must be submitted in an appropriately labeled and well-constructed container with secure lid to prevent leakage during transport. All specimen containers must be labeled with the patient's name and must be accompanied by the chromosome request form. This form must be filled out with the patient's clinical information, indication for the study, date and time collected.

**CHROMOSOME ANALYSIS, CHORIONIC VILLI****Frequency/TAT:** 14 days**Tube:** 15 ml sterile conical centrifuge tube containing transport media (L-glutamine, heparin, and antibiotic, RPMI, FBS)**Specimen Required:** 15 mg chorionic villi**Lab Section:** Cytogenetics**CPT:** 88235, 88267, 88285, 88280, 88291**SRL#:** 01605**Reference Range:** See report.

Call Client Services at (757) 388-3621 for collection supplies. All specimens must be submitted in an appropriately labeled and well-constructed container with secure lid to prevent leakage during transport. All specimen containers must be labeled with the patient's name and must be accompanied by the chromosome request form. This form must be filled out with the patient's gestational age, date of birth, gravida, indication for the study, date and time specimen collected.

**CITRIC ACID, URINE****Frequency/TAT:** M-F**Tube:** Urine**Specimen Required:** 24-hour urine, refrigerate**Lab Section:** Chemistry**CPT:** 82507**SRL#:** 8302

**Reference Range:** 320-1240 mg/24-hour  
Collect a 24-hour urine specimen; add 30 ml 6N HCL to the container prior to collection. Mix well. Refrigerate during collection. Send the entire specimen to the laboratory.

**CITRULLINE ANTIBODY (CCP AB)****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerated**Lab Section:** Serology**CPT:** 86200**SRL#:** 13804**Reference Range:** < 20 units**Interpretation:**

Negative	0-19
Weak positive	20-39
Moderate positive	40-59
Strong positive	>= 60

**Method:** EIA

Anti-CCP is less sensitive compared to RF but more specific (95% vs. 85-90%).

**CLO TEST/PYLORITEC****(See HELICOBACTER PYLORI SCREENING)****CLOMIPRAMINE (ANAFRANIL)****Frequency/TAT:** M-Sat**Tube:** Red**Specimen Required:** 3 ml serum, room temperature**Lab Section:** Chemistry**CPT:** 82491**SRL#:** 10830**Therapeutic range:**

Clomipramine 70-200 ng/ml

Norclomipramine 150-300 ng/ml

Do not use a barrier gel tube for collection, separate serum.

**CLONAZEPAM (KLONOPIN)****Frequency/TAT:** Sun-Sat**Tube:** Red**Specimen Required:** 4 ml serum or plasma, refrigerate**Lab Section:** Chemistry**CPT:** 80154**SRL#:** 8303**Therapeutic Range:** 15-60 ng/ml**Toxic Value:** > 80 ng/ml

Do not use a barrier gel tube for collection. A trough specimen is recommended.

**CLOSTRIDIUM DIFFICILE TOXIN A AND B****Frequency/TAT:** Daily**Tube:** Clean container**Specimen Required:** Stool**Lab Section:** Microbiology**CPT:** 87324**SRL#:** 2843**Reference Range:** Negative

A positive result indicates the presence of toxin, not organisms. Test may remain positive up to three weeks after initial positive.

**CMT 1A DNA EVALUATION****Frequency/TAT:** M-F**Tube:** 3 Yellow (solution A)**Specimen Required:** Whole blood, room temperature

**CPT:** 83891 x 2, 83904 x 34, 83892, 83894, 83896, 83898 x 18, 83897, 83912

**Reference Range:** See report.  
 Draw 3 tubes. Call for special courier pick-up, specimen must be received by 3 p.m. M-F.  
 Send Athena form with physician signature, ICD-9 Code and insurance information with specimen. Test results will be delayed without these requirements.

**CMV IgG, EIA**  
 (See CYTOMEGALOVIRUS ANTIBODIES IgG)

**CMV IgM, EIA**  
 (See CYTOMEGALOVIRUS ANTIBODIES IgM)

**CMV DNA, PCR**  
 (See CYTOMEGALOVIRUS DNA, PCR)

**CMV DNA, PCR (FOR NON BLOOD)**  
 [See CYTOMEGALOVIRUS DNA, PCR (FOR NON BLOOD)]

**COCAINE METABOLITE QUANTITATIVE**  
**Frequency/TAT:** M-F. Test takes 2 days to complete.  
**Tube:** Urine  
**Specimen Required:** 15 ml random  
**Lab Section:** Chemistry  
**CPT:** 82520  
**SRL#:** 7725  
**Reference Range:** None detected.  
**Units:** ng/ml

**COCAINE SCREEN**  
**Frequency/TAT:** Daily  
**Tube:** Urine  
**Specimen Required:** 15 ml random  
**Lab Section:** Chemistry  
**CPT:** 80101  
**SRL#:** 8384  
**Reference Range:** None detected.  
 Included in Drug Screen, Complete and Drug Screen, Basic.

**COCCIDIOMYCOSIS AB CSF, CF**  
**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 2 ml serum, 2 ml CSF, refrigerate  
**Lab Section:** Serology  
**CPT:** 86635

**SRL#:** 8336  
**Method:** CF

**COCCIDIOMYCOSIS AB, CF**  
**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 2 ml serum, refrigerate  
**Lab Section:** Serology  
**CPT:** 86635  
**SRL#:** 8308  
**Reference Range:** < 1:2  
**Method:** CF  
 Comparison of acute and convalescent titers is of greatest diagnostic value. Non-fasting specimens cause method interference.

**COCCIDIOMYCOSIS AB, ID**  
**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 2 ml serum, refrigerate  
**Lab Section:** Serology  
**CPT:** See below.  
**SRL#:** 13620  
**Reference Range:** Negative  
**Method:** ID  
 Test not orderable separately; order Fungal Antibody Screen, ID (CPT: 86606, 86635, 86612, 86698).

**CODEINE**  
**Frequency/TAT:** Daily  
**Tube:** Urine  
**Specimen Required:** 45 ml random  
**Lab Section:** Chemistry  
**CPT:** 83925  
**SRL#:** 7760  
**Reference Range:** None detected.  
 Included in Opiate Quantitation (CPT: 83925).

**COLD AGGLUTININS**  
**Frequency/TAT:** M-F  
**Tube:** Red  
**Specimen Required:** 1 ml serum  
**Lab Section:** Serology  
**CPT:** 86157  
**SRL#:** 8030

**C**  
**D**



C  
D**Method:** Agglutination

Do not refrigerate specimen prior to separation of serum from cells. If processing specimen, incubate the tube at 37 degrees Celsius for a minimum of 30 minutes before separating serum. Once separate, specimen may be kept refrigerated or at room temperature. Indicate on the pour-off tube and requisition that the sample was incubated at 37°C. A fourfold or greater rise in titer between acute and convalescent specimens is of greatest diagnostic value.

**COMPLEMENT C3A****Frequency/TAT:** M-F**Tube:** Pink**Specimen Required:** 2 ml plasma, freeze**Lab Section:** Serology**CPT:** 86160**SRL#:** 8791**Reference Range:** 0-940 ng/ml**Method:** RIA

Separate and freeze plasma as soon as possible, send on dry ice.

**COMPLEMENT C5A****Frequency/TAT:** M-F**Tube:** Pink**Specimen Required:** 2 ml plasma, freeze**Lab Section:** Serology**CPT:** 86160**SRL#:** 8792**Reference Range:** 0-23.3 ng/ml**Method:** RIA

Separate and freeze plasma as soon as possible, send on dry ice.

**COMPLEMENT TOTAL (CH50)****Frequency/TAT:** Sun-F**Tube:** Gel**Specimen Required:** 1 ml serum, freeze**Lab Section:** Chemistry**CPT:** 86162**SRL#:** 8124**Reference Range:** 22-60 units/ml

Separate and freeze serum as soon as possible, transport to lab on dry ice.

**COMPREHENSIVE METABOLIC PANEL (CMP)****Frequency/TAT:** Daily**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 80053**SRL#:** 10032

Test includes Albumin, Alkaline Phosphatase, ALT, AST, BUN, Calcium, Carbon Dioxide, Chloride, Creatinine, Glucose, Potassium, Sodium, Total Bilirubin, and Total Protein.

**COOXIMETRY****Frequency/TAT:** Daily, STAT**Tube:** ABG syringe, on ice or green top heparin tube**Specimen Required:** 2 ml whole blood**Lab Section:** Chemistry**CPT:** 82375, 83050**SRL#:** 11036

Call laboratory at least 1 hour before draw for STAT courier pickup. Deliver immediately on ice.

**COPPER, SERUM****Frequency/TAT:** M-F**Tube:** Red**Specimen Required:** 1 ml serum, room temperature**Lab Section:** Chemistry**CPT:** 82525**SRL#:** 8312**Reference Range:** 70-155 ug/dl

Separate serum immediately.

**COPPER, URINE****Frequency/TAT:** M-F**Tube:** Urine**Specimen Required:** 24-hour urine, room temperature**Lab Section:** Chemistry**CPT:** 82525**SRL#:** 8313**Reference Range:** 3-35 ug/24-hour

Send the entire specimen to laboratory. Do not allow the specimen to come in contact with metal.

**CORDARONE (See AMIODARONE SERUM OR PLASMA)****CORTISOL****Frequency/TAT:** Daily**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 82533**SRL#:** 7115



**Reference Range:**

a.m. 4.3-22.4 ug/dl (8:00 a.m.)

p.m. 3.1-16.7 ug/dl (4:00 p.m.)

Centrifuge and separate within 1 hour of collection. Random specimens are not recommended and may result in misleading information due to circadian variation in secretion.

**CORTISOL, FREE URINE****Frequency/TAT:** M-F**Tube:** Urine**Specimen Required:** 24-hour urine, refrigerate**Lab Section:** Chemistry**CPT:** 82530**SRL#:** 8314**Reference Range:** 0-50 ug/24-hour

Collect a 24-hour urine specimen; add 1 gram of boric acid to the container prior to collection. Refrigerate the specimen during and after the collection. Send the entire specimen to the laboratory.

**COXSACKIE A VIRUS AB PANEL, CF****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Serology**CPT:** 86658 x 4**SRL#:** 13338**Reference Range:** < 1:8**Method:** CF

Detects antibodies to Coxsackie A2, A4, A10 and A16 antigens. A fourfold or greater rise in titer between acute and convalescent specimens is of greatest diagnostic value, 1:32 considered diagnostic. Proper CPT coding may allow the above code to be used 4 times. Please verify this with your provider.

**COXSACKIE B VIRUS AB PANEL, CF****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Serology**CPT:** 86658 x 6**SRL#:** 8316**Reference Range:** < 1:8**Method:** CF

Detects antibodies to Coxsackie B1, B2, B3, B4, B5, and B6 antigens. A fourfold or greater rise in titer between acute and convalescent specimens is of greatest diagnostic value, 1:32 considered diagnostic. Appropriate CPT coding may allow for the reimbursement of the above code six times; please verify this with your provider.

**CK-MB (CREATINE KINASE-MB)****Frequency/TAT:** Daily**Tube:** Gel**Specimen Required:** 1 ml serum**Lab Section:** Chemistry**CPT:** 82553, 82550**SRL#:** 6947**Reference Range:**

CK-MB 0-5.0 ng/ml

Index 0-4.0

Test includes total CK, CK-MB, and index.

Hemolysis interferes with the test.

**CREATINE KINASE (CPK, CK)****Frequency/TAT:** Daily**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 82550**SRL#:** 6611**Reference Range:**

Male 30-200 U/L

Female 30-165 U/L

Hemolysis interferes with the test.

**CREATINE, SERUM****Frequency/TAT:** T, Th**Tube:** Red**Specimen Required:** 3 ml serum, frozen**Lab Section:** Chemistry**CPT:** 82540**SRL#:** 8317**Reference Range:**

Male 0.2-0.7 mg/dl

Female 0.3-0.9 mg/dl

Hemolyzed or unfrozen specimens are not acceptable.

**CREATINE, URINE****Frequency/TAT:** T, Th**Tube:** Urine**Specimen Required:** 24-hr urine, frozen**Lab Section:** Chemistry**CPT:** 82540**SRL#:** 8318**Reference Range:**

Male 0-40 mg/24 hours

Female 0-80 mg/24 hours

Collect a 24-hour urine specimen without a preservative, and refrigerate during collection. Freeze the specimen after the collection period. Acid or Alkali preservative and thawed specimens are not acceptable.

**CREATININE, SERUM****Frequency/TAT:** Daily**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 82565**SRL#:** 6603**Reference Range:**

0-4 days	0.3-1.0 mg/dl
4 days-1 month	0.2-0.4 mg/dl
1 month-14 yrs	0.3-0.7 mg/dl
14 years-18 yrs	0.5-1.0 mg/dl
18 years-60 yrs	0.5-1.2 mg/dl
Male > 60 yrs	0.8-1.6 mg/dl
Female > 60 yrs	0.5-1.4 mg/dl

**CREATININE CLEARANCE****Frequency/TAT:** Daily**Tube:** Gel, Urine**Specimen Required:** 1 ml serum and 24-hour urine**Lab Section:** Chemistry**CPT:** 82575**SRL#:** 6829**Reference Range:**

0-3 yrs	40-70 ml/min
3-8 yrs	60-75 ml/min
8-15 yrs	70-110 ml/min
15-30 yrs	90-140 ml/min
30-40 yrs	60-140 ml/min
40-50 yrs	55-135 ml/min
50-60 years	50-130 ml/min
60-70 years	40-120 ml/min
70+ years	30-110 ml/min

**Units:** ml/min/1.73 sq. meters (body surface area)

Test requires both serum and urine creatine values; the serum should be collected at the beginning of the 24-hour urine collection. Urine should be refrigerated during the collection period. No preservative is required. Collection periods other than 24 hours are acceptable. Send either the total urine specimen or write the volume and the collection period on the requisition. The patient's height and weight must be written on the requisition.

**CREATININE URINE****Frequency/TAT:** Daily**Tube:** Urine**Specimen Required:** 10 ml refrigerate**Lab Section:** Chemistry**CPT:** 82570**SRL#:** 6833**Reference Range:**

Male	1000-2000 mg/24 hours
Female	800-1800 mg/24 hours

10 ml aliquot of a random or timed urine collected without preservative. A 24-hour

specimen should be kept cold during collection. Send the entire 24-hour collection. Bilirubin interferes with the test.

**CREUTZFELDT-JAKOB DISEASE (14-3-3 PROTEIN)****Frequency/TAT:** M-F. Test takes 7 days to complete after arrival at National Prion Disease Pathology Surveillance Center.**Specimen Required:** 2 ml CSF, sterile, frozen**Lab Section:** Serology/Misc. Referral Testing**CPT:** 84182**Reference Range:** None detected.

Specimen must be frozen within 20 minutes.

An additional history form is needed with specimen.

**CRP (See C-REACTIVE PROTEIN)****CRYOFIBRINOGEN****Frequency/TAT:** 7 days**Tube:** Blue**Specimen Required:** 2 tubes, 4 ml plasma, keep warm**Lab Section:** Serology**CPT:** 82585**SRL#:** 7515**Reference Range:** Negative**Method:** Precipitation

Collect separate tubes for cryofibrinogen. If processing specimen, incubate tube at 37 degrees Celsius 30-60 minutes before separating plasma. Note on plasma tube and requisition "incubated 30 minutes at 37 degrees Celsius." Incubated and separated sample may be transported at room temperature. If unable to process plasma, collect and transport tubes wrapped with heel warmers, keeping at 37 degrees Celsius, and call Courier Services at (757) 965-0040 STAT courier pickup.

**CRYOGLOBULIN****Frequency/TAT:** 7 days**Tube:** Red**Specimen Required:** 2 tubes, 4 ml serum, keep warm**Lab Section:** Serology**CPT:** 82595**SRL#:** 7520**Reference Range:** Negative**Method:** Precipitation

Collect separate tubes for cryofibrinogen. If processing specimen, incubate tube at 37 degrees Celsius 30-60 minutes before separating plasma. Note on plasma tube and requisition "incubated 30 minutes at 37 degrees Celsius." Incubated and

separated sample may be  
transported at room  
temperature. If unable to process plasma,  
collect and transport tubes wrapped with heel  
warmers, keeping at 37degrees Celsius,  
and call Courier Services at (757) 965-0040  
STAT courier pickup.

**CRYPTOCOCCAL ANTIGEN****Frequency/TAT:** M-Sat**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Serology**CPT:** 87327**SRL#:** 8320**Reference Range:** Negative**Method:** EIA

Positives will be titrated.

**CRYPTOCOCCAL ANTIGEN, FLUID****Frequency/TAT:** M-Sat**Tube:** CSF**Specimen Required:** 2 ml CSF in original tube**Lab Section:** Serology**CPT:** 87327**SRL#:** 8319**Reference Range:** Negative**Method:** EIA

Positives will be titrated.

**CRYPTOSPORIDIUM/ISOSPORA****Frequency/TAT:** 3-5 days**Lab Section:** Microbiology**CPT:** 87206**SRL#:** 2773**Reference Range:** None seen.Submit 10 grams of stool in 10% formalin; use  
a vial from the ova and parasite kit. Both  
Cryptosporidium and Isospora are identified.**CSF CELL COUNT WITH DIFF****Frequency/TAT:** Daily**Tube:** Sterile tube designated for CSF  
collection**Specimen Required:** 1 ml**Lab Section:** Hematology**CPT:** 89051**SRL#:** 17603

Test includes WBC, RBC and differential.

**CSF PROFILE****Frequency/TAT:** Daily**Tube:** Sterile tube designated for CSF  
collection**Specimen Required:** 2 ml**Lab Section:** Hematology**CPT:** 89051, 82945**SRL#:** 17605Profile includes cell count (WBC and RBC),  
differential, color, appearance, protein and  
glucose.**CULTURE, ABSCESS OR WOUND****Frequency/TAT:** 2-4 days**Lab Section:** Microbiology**CPT:** 87070**SRL#:** 3110 abscess, 16004 wound**Reference Range:** No growth.Aspirate specimen with needle and syringe,  
transfer to sterile container or submit two  
swabs (one for culture, one for Gram stain) in  
transport media. Dry swabs are not accepted.  
A gram stain is performed according to  
approved procedures. Gram stain is billed  
separately. ID and sensitivity tests are  
performed as indicated and billed separately.**CULTURE, ACTINOMYCES****Frequency/TAT:** 5 days**Tube:** Sterile container or anaerobic collection  
tube **Specimen Required:** Exudate, CSF,  
pleural fluid, IUD; or tissue**Lab Section:** Microbiology**CPT:** 87081**SRL#:** 16107**Reference Range:** None isolated.Call Client Services at (757) 388-3621 if  
anaerobic collection tubes are needed. ID  
tests are performed as indicated and billed  
separately.**CULTURE, ADENOVIRUS****Frequency/TAT:** 15 days**Tube:** Sterile container or UTM-Rt transport  
media for viruses, chlamydia, mycoplasma and  
ureaplasma.**Specimen Required:** CSF, urine; or blood,  
stool, bronchial wash, lung tissue,  
nasopharyngeal swab**Lab Section:** Microbiology**CPT:** 87252**SRL#:** 2883**Reference Range:** None isolated.Do not use swabs with wooden sticks. Call  
Client Services at (757) 388-3621 if transport  
media is needed. See specimen collection

for microbiology and procedures for  
specific specimen collection.

### CULTURE, AFB (ACID FAST BACILLUS)

**Frequency/TAT:** 8 weeks

**Tube:** Sterile container

**Lab Section:** Microbiology

**CPT:** 87116, 87206

**SRL#:** 2750

**Reference Range:** No AFB isolated.

Test includes AFB smear and Mycobacterium culture. Positive smear and/or cultures are called to the ordering physician. DNA probe or PCR performed if indicated and may be billed separately. See specimen collection for microbiology and procedures for specific specimen collection.

### CULTURE, AFB BLOOD (ACID FAST BACILLUS)

**Frequency/TAT:** 8 weeks

**Tube:** Pediatric isolator tube

**Specimen Required:** 1.5 ml blood

**Lab Section:** Microbiology

**CPT:** 87116

**SRL#:** 2709

**Reference Range:** No AFB isolated.

Do not refrigerate. Call Client Services at (757) 388-3621 if isolator tube is needed. Negative cultures are reported in eight weeks. Positive cultures are called to the ordering physician. See specimen collection for microbiology and procedures for specific specimen collection.

### CULTURE, ANAEROBIC

**Frequency/TAT:** 5 days

**Lab Section:** Microbiology

**CPT:** 87075

**SRL#:** 2730

**Reference Range:** None isolated.

Do not refrigerate. Place swab or specimen in an Anaerobic Collection System. Call Client Services at (757) 388-3621 if collection supplies are needed. It is of the utmost importance to avoid inclusion of normal flora in the collection of anaerobic cultures.

Indigenous anaerobes are often

present in such large numbers that even minimal

contamination of a specimen with skin, genital, intestinal or respiratory flora can result in very

no results. If a culture of abscess and wound may be ordered, these procedures include a screening for predominant anaerobic bacteria. ID tests are performed as indicated and billed separately. See specimen collection for microbiology and procedures for specific specimen collection.

**Frequency/TAT:** 5 days

**Tube:** Green top (aerobic), purple top (anaerobic) blood culture bottles

**Specimen Required:** 20 ml blood

**Lab Section:** Microbiology

**CPT:** 87040

**SRL#:** 2610

**Reference Range:** No growth.

Aseptically collect 20 ml blood with syringe or butterfly collection set following 2 step disinfection of skin with alcohol and iodine. Transfer 8-10 ml to BioMérieux BactAlert aerobic broth (green top) and 8-10 ml to anaerobic (purple top) blood culture bottles. Prior to transfer cleanse the top of the bottle with an alcohol swab-not iodine. Do not refrigerate. Please note that the use of SPS (sodium polyanestholesulfonate) tubes is not acceptable for extended transport of blood culture specimens. Blood from these SPS tubes should be transferred within two to four hours to assure that all suspected organisms are viable. Organisms quickly affected by this anticoagulant include Haemophilus influenza, Neisseria meningitis and anaerobic streptococci. Blood cultures should be drawn before initiation of antimicrobial therapy. If Brucella yeast or Mycobacterium are suspected, separate cultures for those organisms should be requested. Please call Client Services if collection bottles are required. ID and sensitivity tests are performed as indicated and billed separately.

### CULTURE, BLOOD (PEDIATRIC)

**Frequency/TAT:** 5 days

**Tube:** Yellow top blood culture bottle

**Specimen Required:** 1-5 ml blood

**Lab Section:** Microbiology

**CPT:** 87040

**SRL#:** 16142

**Reference Range:** No growth.

Aseptically collect 1-5 ml blood using syringe or butterfly collection set following 2-step disinfection of skin with alcohol and iodine. Transfer 1-5 ml to Biomérieux BactAlert aerobic broth (yellow top). Prior to transfer cleanse the top of the bottle with an alcohol swab – not iodine. Do not refrigerate. Please note that

### CULTURE, BLOOD

the use of SPS (sodium polyanestholesulfonate) tubes is not acceptable for extended transport of blood culture specimens. Blood from these SPS tubes should be transferred within two to four hours to assure that all suspected organisms are viable. Organisms quickly affected by this anticoagulant include *Haemophilus influenza*, *Neisseria meningitis* and anaerobic streptococci. Blood cultures should be drawn before initiation of antimicrobial therapy. Call Client Services at (757) 388-3621 if collection bottles are required. ID and sensitivity tests are performed as indicated and billed separately.

#### **CULTURE, BODY FLUID**

**Frequency/TAT:** 5 days

**Tube:** Sterile container

**Lab Section:** Microbiology

**CPT:** 87070

**SRL#:** 2641

**Reference Range:** No growth.

ID and sensitivity tests are performed as indicated and billed separately.

#### **CULTURE, BORDETELLA PERTUSSIS**

**Frequency/TAT:** 7 days

**Tube:** Regan-Lowe Transport Media for culture and air-dried smear for DFA testing.

**Specimen Required:** 2 nasopharyngeal swabs

**Lab Section:** Microbiology

**CPT:** 87081, 87265

**SRL#:** 2862 & 2863

**Reference Range:** Negative

Collect specimens using flexible calcium alginate swabs. Pass each swab gently through the nose, leave in place near the septum and floor of the nose for 15-30 seconds, rotate each and remove. Place one swab in Bordetella (Regan-Lowe) Transport Media (call Client Services if media is needed). Use second to make a smear; allow to air dry, do not use a fixative. ID tests are performed as indicated and billed separately.

#### **CULTURE, BRUCELLA, BLOOD**

**Frequency/TAT:** 22 days

**Tube:** Green top, purple top blood culture bottles

**Specimen Required:** 20 ml blood

**Lab Section:** Microbiology

**CPT:** 87040

**SRL#:** 2613

**Reference Range:** No growth.

Aseptically collect 20 ml blood in syringe, transfer 8-10 ml to BioMérieux BactAlert aerobic broth (green top) and 8-10 ml to anaerobic (purple label) blood culture bottles.

Prior to transfer cleanse the top of the bottle

with an alcohol swab-not iodine. Do not refrigerate. Please note that the use of SPS (sodium polyanestholesulfonate) tubes is not acceptable for extended transport of blood culture specimens. Blood from these SPS tubes should be transferred within 2-4 hours to assure that all suspected organisms are viable. Organisms quickly affected by this anticoagulant include *Haemophilus influenza*, *Neisseria meningitis* and anaerobic streptococci. Blood cultures should be drawn before initiation of antimicrobial therapy. Call Client Services at (757) 388-3621 if bottles are required. ID tests are performed as indicated and billed separately.

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#### **CULTURE, CAMPYLOBACTER, STOOL**

**Frequency/TAT:** 3 days

**Tube:** Port-a-cul transport or see below

**Specimen Required:** 1 g random stool

**Lab Section:** Microbiology

**CPT:** 87046

**SRL#:** 2651

**Reference Range:** None isolated.

Submit stool specimen in Port-a-cul Transport, Cary-Blair Media, or swab with modified Stuart's gel (call Client Services at (757) 388-3621 if media is needed). Store and transport the specimen refrigerated. ID tests are performed as indicated and billed separately. See specimen collection for microbiology and procedure for specific specimen collection.

#### **CULTURE, CHLAMYDIA TRACHOMATIS (CHLAMYDIA CULTURE)**

**Frequency/TAT:** 7 days

**Tube:** UTM-RT for viruses, chlamydia, mycoplasma and ureaplasma

**Lab Section:** Microbiology

**CPT:** 87110, 87140

**SRL#:** 2881

**Reference Range:** Negative.

Do not administer antibiotics prior to specimen collection. It is important to collect as much cellular material as possible from the infected area. Dacron swabs or aspirates collected from the conjunctival, nasopharyngeal,



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tracheobronchial, endocervical, rectal or endourethral areas should be inoculated into UTM-RT media and transported to the laboratory as soon as possible. Do not submit specimens on Culturette. Urine and semen are unacceptable. Respiratory specimens submit in a sterile container. See specimen collection for microbiology and procedures for specific specimen collection.

**CULTURE, CYTOMEGALOVIRUS (CMV)**

**Frequency/TAT:** 30 days

**Tube:** Green top (sodium heparin), sterile container or UTM-RT for viruses, chlamydia, mycoplasma and ureaplasma

**Specimen Required:** CSF, stool, urine, tissue, bronchial lavage or bone marrow in two green top (heparin) tubes.

**Lab Section:** Microbiology

**CPT:** 87254

**SRL#:** 2846

**Reference Range:** None isolated.

Swab and aspirate tissue or stool in UTM-RT viral transport media. Do not use swabs with wooden sticks. 10 ml blood or bone marrow into two Na heparin (green top tubes).

Specimen must be transported to the laboratory within 24 hours of collection. Call Client Services at (757) 388-3621 if UTM-RT is required. Urine results are available in 48 hours, CSF, blood and stool in 21 days; swab, aspirate and tissue in 29 days. See specimen collection for microbiology and procedures for specific specimen collection.

**CULTURE, DIPHTHERIA (DIPHTHERIA CULTURE)**

**Frequency/TAT:** 12-14 days

**Tube:** Nasopharyngeal swab

**Lab Section:** Microbiology

**CPT:** 87070

**SRL#:** 2864

Collect on dry swabs (no transport media).

Hold at room temperature.

**CULTURE, EAR**

**Frequency/TAT:** 2-4 days

**Lab Section:** Microbiology

**CPT:** 87070

**SRL#:** 2622

**Reference Range:** None isolated.

Submit the specimen on swabs in transport media. Except for the middle ear, other areas external to the tympanic membrane are normally inhibited with bacteria and fungi. Do not refrigerate. ID and sensitivity tests are performed as indicated and billed separately. See specimen collection for microbiology and procedures for specific specimen collection.

**CULTURE, ENTEROVIRUS**

**Frequency/TAT:** 15 days

**Tube:** Sterile container or green top (sodium heparin )

**Specimen Required:** 2 ml CSF or other body fluid, stool, 10 ml blood, tissue, urine or upper respiratory specimen.

**Lab Section:** Microbiology

**CPT:** 87252

**SRL#:** 2884

**Reference Range:** None isolated.

Test includes Coxsackie A and B, Echovirus and Poliovirus. Swab, aspirate stool in Multi-Microbe Media. Call Client Services at (757) 388-3621 if Multi-Microbe Media is needed. Do not freeze. Specify source of material on the requisition. Do not use wooden sticks. See specimen collection for microbiology and procedures for specific specimen collection.

**CULTURE, EYE**

**Frequency/TAT:** 2-4 days

**Lab Section:** Microbiology

**CPT:** 87070

**SRL#:** 2621

**Reference Range:** None isolated.

Submit the specimen on swabs in transport media. Do not refrigerate. ID and sensitivity tests are performed as indicated and billed separately.

**CULTURE, FUNGUS**

**Frequency/TAT:** 30 days

**Tube:** Sterile container or swab in transport media

**Specimen Required:** See specimen collection information for skin, hair or nails

**Lab Section:** Microbiology

**CPT:** 87102

**SRL#:** 2711

**Reference Range:** None isolated.

Specify source on the requisition. Avoid contamination of the specimen with commensal

organisms. Sensitivity must be ordered and will be billed separately.

#### **CULTURE, FUNGUS BLOOD**

**Frequency/TAT:** 30 days

**Tube:** Green top aerobic blood culture bottle

**Lab Section:** Microbiology

**CPT:** 87103

**SRL#:** 2710

**Reference Range:** None isolated.

Aseptically collect 10 ml blood in syringe or butterfly collection set following 2 step disinfection of skin with alcohol and iodine. Transfer 10 ml to BioMérieux BactAlert aerobic broth (green top) blood culture bottle. Prior to transfer cleanse the top of the bottle with an alcohol swab-not iodine. Do not refrigerate. Please note that the use of SPS (sodium polyanestholesulfonate) tubes is not acceptable for extended transport of blood culture specimens. Blood from these SPS tubes should be transferred within two to four hours to assure that all suspected organisms are viable. Organisms quickly affected by this anticoagulant include *Haemophilus influenza*, *Neisseria meningitis* and anaerobic streptococci. Blood cultures should be drawn before initiation of antimicrobial therapy. Call Client Services at (757) 388-3621 if collection bottles are required. ID and sensitivity tests are performed as indicated and billed separately.

#### **CULTURE, FUNGUS ID ONLY**

**Frequency/TAT:** 14 days

**Specimen Required:** pure, isolated yeast or mold, on culture media

**Lab Section:** Microbiology

**CPT:** 87106

**SRL#:** 2977

#### **CULTURE, GENITAL**

**Frequency/TAT:** 3-4 days

**Lab Section:** Microbiology

**CPT:** 87070

**SRL#:** 2660

**Reference Range:** Genital flora.

Submit the specimen on swabs in transport media. Genital cultures include a screen for *Neisseria gonorrhea*. The specimen will also be screened for *Streptococcus* groups A and B, predominating *Staphylococcus aureus*, yeast, *Listeria monocytogenes* and *Gardnerella*. The

specimen should be stored at room temperature, not refrigerated and submitted within 12 hours. ID and sensitivity tests are performed as indicated and billed separately.

#### **CULTURE, GONOCOCCUS**

**Frequency/TAT:** 4 days

**Lab Section:** Microbiology

**CPT:** 87070

**SRL#:** 2661

**Reference Range:** None isolated.

Submit specimen on swabs with transport media within 12 hours. Do not refrigerate. ID and sensitivity tests are performed as indicated and billed separately. See specimen collection for microbiology and procedures for specimen collection.

#### **CULTURE, GROUP B STREP ONLY**

**Frequency/TAT:** 2-4 days

**Lab Section:** Microbiology

**CPT:** 87081

**SRL#:** 16199

**Reference Range:** None isolated.

Submit vaginal or anorectal specimen on swabs in transport media. ID and sensitivity tests only performed as indicated and billed separately. Group B Strep is universally sensitive to penicillin. Mark requisition form in appropriate box if patient is penicillin allergic for additional testing.

#### **CULTURE, HERPES SIMPLEX VIRUS (HSV)**

**Frequency/TAT:** 7 days

**Tube:** Sterile container, UTM for viruses, chlamydia, mycoplasma and ureaplasma, or green top (sodium heparin)

**Specimen Required:** CSF or urine, vesicular fluid, tissue, swab or aspirate or blood

**Lab Section:** Microbiology

**CPT:** 87255

**SRL#:** 2842

**Reference Range:** None isolated.

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Submit urine in sterile container. Submit tissue, CSF, vesicular fluid or aspirate in UTM-RT. Submit blood in green top tube. Call Client Services at (757) 388-3621 if collection supplies are needed. Do not use swabs with wooden sticks. Do not centrifuge. Specify source on the requisition. See specimen collection for microbiology and procedures for specimen collection.

**CULTURE, INFLUENZA VIRUS A+B**

**Frequency/TAT:** 5 days

**Tube:** Sterile container or UTM-RT for viruses, chlamydia, mycoplasma and ureaplasma

**Specimen Required:** CSF, throat or nasopharyngeal swab or washing, bronchial wash or lavage.

**Lab Section:** Microbiology

**CPT:** 87254

**SRL#:** 2885

**Reference Range:** None isolated.

Submit CSF in sterile container or throat, nasopharyngeal swab or washing in UTM-RT. Call Client Services at (757) 388-3621 if collection supplies are needed. Do not use wooden swabs. Specify source of specimen on the requisition.

**CULTURE, LEGIONELLA**

**Frequency/TAT:** 10 days

**Tube:** Sterile container

**Specimen Required:** 1 ml pleural fluid, lung biopsy, sputum, tracheal suction, transtracheal aspirate; or a minimum of 100 ml water

**Lab Section:** Microbiology

**CPT:** 87081

**SRL#:** 2888

**Reference Range:** None isolated.

Avoid the use of saline in the collection of specimens, as it is inhibitory to the bacteria.

**CULTURE, LEPTOSPIRA**

**Frequency/TAT:** 6 weeks

**Lab Section:** Microbiology

**CPT:** 87081

**SRL#:** 2653

**Reference Range:** None isolated.

During the first week of the patient's illness, collect blood in 2 green top tubes (sodium heparin). During the first 10 days of illness collect 1 ml of CSF and submit it in a sterile container. After the first 10 days of illness

submit 10 ml of fresh clean catch urine in sterile container. Protect specimen from light.

**CULTURE, MYCOPLASMA**

**Frequency/TAT:** 10 days

**Tube:** UTM-RT for viruses, chlamydia, mycoplasma and ureaplasma.

**Lab Section:** Microbiology

**CPT:** 87109

**SRL#:** 16150

**Reference Range:** None isolated.

Submit throat swab in Viral Transport Media (blue top). Call Client Services at (757) 388-3621 if UTM-RT is needed. Do not use swabs with wooden sticks. Sputum or bronchial washings in Viral Transport Media are acceptable, but not preferred. Specify the source on the requisition. No sensitivity will be performed.

**CULTURE, ORGANISM ID ONLY**

**Frequency/TAT:** 2 days

**Specimen Required:** Pure isolated organism on culture media.

**Lab Section:** Microbiology

**CPT:** 87077

**SRL#:** 2979

Sensitivity will be billed separately.

**CULTURE, QUANTITATIVE TISSUE**

**Frequency/TAT:** 3 days

**Tube:** Sterile container

**Specimen Required:** 1 gram of tissue

**Lab Section:** Microbiology

**CPT:** 87071

**SRL#:** 2840

**Reference Range:** None isolated.

Do not add saline or a preservative, this will dilute any organisms present. Transport to the laboratory as soon as possible; refrigerate the specimen if a 12 hour delay is expected, freeze if a delay greater than 24 hours is expected.

**CULTURE, RESPIRATORY**

**Frequency/TAT:** 2-4 days

**Tube:** Sterile container

**Specimen Required:** Expecterated or induced sputum, transtracheal aspirate, bronchial washings or brushings

**Lab Section:** Microbiology

**CPT:** 87070

**SRL#:** 2630

**Reference Range:** Normal flora if sputum; no growth if protected collection. ID and

sensitivity tests are performed as indicated and billed separately. See specimen collection for microbiology and procedures for specimen collection.

#### **CULTURE, RSV (RESPIRATORY SYNCYTIAL VIRUS)**

**Frequency/TAT:** 10-14 days

**Tube:** UTM-RT for viruses, chlamydia, mycoplasma and ureaplasma.

**Lab Section:** Microbiology

**CPT:** 87254

**SRL#:** 16151

**Reference Range:** None detected.

Submit nasopharyngeal swab in UTM-RT or nasal washing or aspirate in a sterile container. Specimens should be refrigerated. Call Client Services at (757) 388-3621 if UTM-RT is needed. See specimen collection information for microbiology and procedures for specimen collection. Collection of specimens on swabs acceptable but not recommended.

#### **CULTURE, RUBELLA VIRUS**

**Frequency/TAT:** 4 weeks

**Specimen Required:** UTM-RT for viruses, chlamydia, mycoplasma and ureaplasma

**Lab Section:** Microbiology

**CPT:** 87252

**SRL#:** 2886

**Reference Range:** None isolated.

Submit urine, washing or body fluid in a sterile container. Submit rectal or throat swab, aspirate or tissues in UTM-RT..

#### **CULTURE, STOOL (CULTURE, ENTERICS)**

**Frequency/TAT:** 2-3 days

**Lab Section:** Microbiology

**CPT:** 87045 x 2, 87046, 87427

**SRL#:** 16246 2651, 2650, 16335

**Reference Range:** Intestinal flora.

Test includes isolation and identification of Salmonella, Shigella, Yersinia, Vibrio, Campylobacter and Shigatoxin testing by EIA as well as predominating Staphylococcus aureus and yeast. Submit random stool in Cary-Blair Media or container if transported to laboratory within 1 hour. ID and tests are performed as indicated and billed separately.

#### **CULTURE, THROAT**

**Frequency/TAT:** 2 days

**Lab Section:** Microbiology

**CPT:** 87070

**SRL#:** 2631

**Reference Range:** None isolated.

Submit the specimen on swabs in a transport media. Do not use calcium alginate swabs or systems containing semi-solid transport media. Throat cultures are screened for Beta strep group A (Streptococcus Pyogenes) only.

Indicate on the requisition if Haemophilus species or Neisseria gonorrhea is suspected. Do not refrigerate. Only ID is performed as indicated and billed separately.

#### **CULTURE, TISSUE OR BIOPSY**

**Frequency/TAT:** 5 days

**Tube:** Sterile container

**Lab Section:** Microbiology

**CPT:** 87070

**SRL#:** 3148

**Reference Range:** No growth.

ID and sensitivity tests are performed as indicated and billed separately.

#### **CULTURE, UREAPLASMA**

**Frequency/TAT:** 7 Days

**Lab Section:** Microbiology

**CPT:** 87109

**SRL#:** 2882

**Reference Range:** Negative

Submit urethral, vaginal or cervical specimens using a non-wooden swab in UTM-RT for viruses, chlamydia, mycoplasma and ureaplasma.

#### **CULTURE, URINE**

**Frequency/TAT:** 2-4 days

**Lab Section:** Microbiology

**CPT:** 87086

**SRL#:** 2600

**Reference Range:** No growth.

Collect urine in a sterile container and transfer to urine transport tubes. It is important to indicate on the requisition the collection method (clean catch, straight catheter, Foley, etc.) to ensure proper processing of the specimen. ABN may be required. ID and sensitivity tests are performed as indicated and billed separately.

#### **CULTURE, VIRAL COMPREHENSIVE**

**Frequency/TAT:** 26 days

**Lab Section:** Microbiology

**CPT:** 87252

**SRL#:** 2880

**Reference Range:** None detected.

Submit CSF in a sterile container; submit swab, aspirate tissue, respiratory specimen or stool in UTM-RT for viruses, chlamydia, mycoplasma and ureaplasma. Submit 10 ml blood in 2 green top sodium heparin tubes. Call Client

C  
D

Services at (757) 388-3621 if collection supplies needed. Culture includes CMV, HSV, RSV, VZV, Adenovirus, Enterovirus, Influenza A and B, Para Influenza 1, 2, 3 and Varicella as appropriate for sources. See specimen collection for microbiology and specimen collection.

**CULTURE, WOUND (See CULTURE, ABCESS OR WOUND)****CYANIDE, BLOOD****Frequency/TAT:** T-F**Tube:** Pink**Specimen Required:** 7 ml whole blood, refrigerate**Lab Section:** Chemistry**CPT:** 82600**SRL#:** 8322**Reference Range:** None detected**Toxic Value:** > 1.0 ug/ml

Submit original full unopened collection tube.

Do not centrifuge.

**CYCLOSPORINE****Frequency/TAT:** Daily**Tube:** Lavender**Specimen Required:** 2 ml whole blood**Lab Section:** Chemistry**CPT:** 80158**SRL#:** 8131**Reference Range:** Not established.**Units:** ng/ml

A monoclonal antibody method is used.

**CYSTICERCOSIS ANTIBODY****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Serology**CPT:** 83882**SRL#:** 8326**Reference Range:** < .90 index**Method:** EIA**CYSTIC FIBROSIS PROFILE, DNA ANALYSIS****Frequency/TAT:** M-F**Tube:** EDTA**Specimen Required:** 7 ml whole blood, 3 ml minimum, room temperature.**Lab Section:** Chemistry**CPT:** 83890, 83894, 83896 x 2, 83901, 83912**SRL#:** 13826**Reference Range:** Negative**Method:** PCR

A completed cystic fibrosis screening questionnaire must accompany specimen. This assay detects as many as 90% of all the mutations that cause cystic fibrosis.

**CYSTINE, URINE QUANTITATIVE****Frequency/TAT:** T, Th**Tube:** Urine**Specimen Required:** 24-hour urine, frozen**Lab Section:** Chemistry**CPT:** 82131**SRL#:** 8327**Reference Range:** 10-100 mg/24-hour

Collect a 24-hour urine specimen; add 30 ml 6 N HCl to the container prior to collection. Mix well. Send the entire specimen to the laboratory. Keep specimen on ice during collection.

**CYTOMEGALOVIRUS (CMV) ANTIBODIES IgG****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Serology**CPT:** 86644**SRL#:** 13615**Reference Range:** < 0.9 units/ml**Method:** EIA

Presence of IgG antibody to CMV indicates a current or previous infection.

**CYTOMEGALOVIRUS (CMV) ANTIBODIES IgM****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Serology**CPT:** 86645**SRL#:** 13640**Reference Range:** <= 0.9 index**Method:** EIA

IgM antibody remains detectable for approximately 3-6 months after onset of infection.

**CYTOMEGALOVIRUS (CMV) EARLY ANTIGEN****Frequency/TAT:** 2 days**Lab Section:** Microbiology**CPT:** 87253**SRL#:** 2848**Reference Range:** Negative

Submit urine in sterile container. Collect 10 ml blood in Na Citrate (blue top) tube and transport to the laboratory within 24 hours of collection. For bronchial wash, submit UTM-

RT for viruses, chlamydia, mycoplasma and ureaplasma. (2 tubes) or sterile container if transported immediately. Store and transport refrigerated.

#### **CYTOMEGALOVIRUS (CMV) DNA, PCR**

**Frequency/TAT:** M-F

**Tube:** Pink or Lavender-EDTA

**Specimen Required:** 7 ml whole blood (2 ml minimum), refrigerate

**Lab Section:** Serology

**CPT:** 87497

**SRL#:** 13337

**Reference Range:** Not detected.

**Method:** PCR

This assay cannot detect less than 100 copies per ml.

#### **CYTOMEGALOVIRUS (CMV) DNA, PCR (NON BLOOD)**

**Frequency/TAT:** M-F

**Tube:** Sterile container, CSF, tissue, various fluids; refrigerate

**Lab Section:** Molecular

**CPT:** 87497

**SRL#:** 13354

**Reference Range:** Not detected.

**Method:** PCR

This assay cannot detect less than 100 copies per 100,000 cells.

## **D**

#### **DALMANE (FLURAZEPAM)**

**Frequency/TAT:** M-F. Test takes 10-14 days to complete.

**Tube:** Gel

**Specimen Required:** 5 ml serum, freeze

**Lab Section:** Chemistry

**CPT:** 82742

**SRL#:** 7935

**Therapeutic values:** 30-150 ng/ml

**Toxic Value:** > 200 ng/ml

Centrifuge and separate within 1 hour of collection. Measured as Metabolite n-desalkylflurazepam.

#### **DARVON QUANT (PROPOXYPHENE)**

**Frequency/TAT:** W, Sat

**Tube:** Red

**Specimen Required:** 4 ml serum, refrigerate

**Lab Section:** Chemistry

**CPT:** 80102

**SRL#:** 7755 Quant

**Therapeutic values:** Propoxyphene 100-400 ng/ml

**Toxic Value:** > 500 ng/ml

EDTA (pink top) plasma is acceptable.

#### **DARVON SCREEN (PROPOXYPHENE)**

**Frequency/TAT:** Daily

**Tube:** Urine

**Specimen Required:** 25 ml random

**Lab Section:** Chemistry

**CPT:** 80101

**SRL#:** 7721

**Reference Range:** None detected.

Included in Drug Screen, Complete (CPT: 80100).

#### **DEPAKANE (VALPROIC ACID)**

**Frequency/TAT:** Daily

**Tube:** Gel

**Specimen Required:** 1 ml serum, refrigerate

**Lab Section:** Chemistry

**CPT:** 80164

**SRL#:** 7975

**Reference Range:** 50-100 ug/ml

**Toxic Value:** > 200 ug/ml

Peak 1-4 hours after dose (influenced by meals). Centrifuge and separate within 1 hour of collection.

#### **DESERYL (TRAZADONE)**

**Frequency/TAT:** Sun-Sat

**Tube:** Red

**Specimen Required:** 2 ml serum, refrigerate

**Lab Section:** Chemistry

**CPT:** 82491

**SRL#:** 8681

**Reference Range:** 0.8-1.6 ug/ml

**Toxic Value:** > 5.0 ug/ml

Do not use a gel barrier tube. EDTA (lavender) plasma is acceptable.

#### **DESIPRAMINE (NORPRAMIN)**

**Frequency/TAT:** Daily

**Tube:** Red

**Specimen Required:** 2 ml serum, refrigerate

**Lab Section:** Chemistry

**CPT:** 80160

**SRL#:** 7821

**Reference Range:** 150-250 ng/ml

**Toxic Value:** > 500 ng/ml

Do not use serum separator tube to collect specimen.

#### **DHEA, SERUM**

**Frequency/TAT:** M-F

**Tube:** Gel

**Specimen Required:** 2 ml serum, refrigerate

**Lab Section:** Chemistry

**CPT:** 82626

**SRL#:** 8329

**Reference Range:** See patient chart.

**C  
D**

Separate serum from the cells as soon as possible. No isotopes administered 24 hours prior to venipuncture.

**DHEA-S, SERUM (DHEA SULFATE)****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 82627**SRL#:** 8331**Reference Range:** See patient chart.**DIAZEPAM (VALIUM)****Frequency/TAT:** Su-F**Tube:** Red**Specimen Required:** 2 ml serum**Lab Section:** Chemistry**CPT:** 80154**SRL#:** 7914**Reference Range:**

Diazepam 0.0-1.0 ug/ml

Nordiazepam 0.0-1.5 ug/ml

Total: 0.1-2.5 ug/ml

**Toxic Value:** > 5 ug/ml combined total

Lavender (EDTA) plasma is acceptable.

Included in Benzodiazepine Quantitation,

Serum (CPT: 80102). Test includes

Nordiazepam.

**DIC SCREEN****Frequency/TAT:** Daily**Tube:** Blue**Specimen Required:** 2 ml citrated plasma**Lab Section:** Hematology**CPT:** 85610, 85730, 85384, 85378**SRL#:** 12200**Reference Range:**

PT 9.0-13.0 seconds

PTT See chart.

Fibrinogen 200-400 mg/dl

D – Dimer Negative

Test includes PT, PTT, Fibrinogen and

qualitative D – Dimer.

**D-DIMER (QUALITATIVE)****Frequency/TAT:** Daily**Tube:** Blue**Specimen Required:** 1 ml citrated plasma, frozen**Lab Section:** Hematology**CPT:** 85378**SRL#:** 12264**Reference Range:** Negative**D-DIMER (QUANTITATIVE)****Frequency/TAT:** Daily**Tube:** Blue**Specimen Required:** 1 ml citrated plasma, frozen**Lab Section:** Chemistry**CPT:** 85379**SRL#:** 1274**Reference Range:** 0.00-1.19 mcg/ml**DIFFERENTIAL, BODY FLUID (NON-CSF)****Frequency/TAT:** Daily**Tube:** Lavender**Specimen Required:** 1 ml fluid, refrigerate**Lab Section:** Hematology**CPT:** 89051**SRL#:** 12785

Specify fluid source.

**DIFFERENTIAL, PERIPHERAL BLOOD SMEAR (MANUAL)****Frequency/TAT:** Daily**Tube:** Lavender**Specimen Required:** 3 ml EDTA whole blood, refrigerate**Lab Section:** Hematology**CPT:** 85007**SRL#:** 12037**Reference Range:** See chart for Hematology Standardized Reference Ranges.

Mix the tube by inversion after collection and refrigerate; clotted or hemolyzed specimens will be rejected. One microtainer is acceptable for capillary collection.

**DIGITOXIN****Frequency/TAT:** Su-Sa**Tube:** Gel**Specimen Required:** 1 ml serum, room temperature**Lab Section:** Chemistry**CPT:** 83519**SRL#:** 7120**Reference Range:** 10-30 ng/ml**Toxic Value:** > 35 ng/ml

This is not the same drug as digoxin - verify that digitoxin is the drug to be measured. EDTA or sodium heparin plasma is acceptable.

Centrifuge and separate within 1 hour of collection.

**DIGOXIN****Frequency/TAT:** Daily**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 80162**SRL#:** 7125**Reference Range:** 0.8-2.0 ng/ml

**Toxic Value:** > 2.3 ng/ml  
Centrifuge and separate within 1 hour of collection. ABN may be required.

#### DIHYDROTESTOSTERONE (DHT)

**Frequency/TAT:** 10-14 days  
**Tube:** Gel  
**Specimen Required:** 1 ml serum, freeze  
**Lab Section:** Chemistry  
**CPT:** 82651  
**SRL#:** 6638  
**Reference Range:**  
Males 25.0-99.0 ng/dL  
Females, Premenopausal 2.4-36.8 ng/dL  
Postmenopausal 1.0-18.1 ng/dL  
Separate and freeze serum as soon as possible, transport on ice.

#### DILANTIN (PHENYTOIN)

**Frequency/TAT:** Daily  
**Tube:** Gel  
**Specimen Required:** 1 ml serum, refrigerate  
**Lab Section:** Chemistry  
**CPT:** 80185  
**SRL#:** 7950  
**Reference Range:** 10-20 ug/ml  
**Toxic Value:** > 20 ug/ml  
Centrifuge and separate within 1 hour of collection.

#### DILUTE RUSSELL'S VIPER VENOM SCREEN (LUPUS ANTICOAGULANT SCREEN)

**Frequency/TAT:** M-F  
**Tube:** Blue  
**Specimen Required:** 1 ml citrated plasma  
**Lab Section:** Hematology  
**CPT:** 85613  
**SRL#:** 1269  
**Reference Range:** Negative  
Positive test will reflex to Dilute Russell's Viper Venom Confirmation.

#### DILUTE RUSSELL'S VIPER VENOM CONFIRMATION (LUPUS ANTICOAGULANT)

**Frequency/TAT:** M-F  
**Tube:** Blue  
**Specimen Required:** 2 ml citrated plasma  
**Lab Section:** Hematology  
**CPT:** 85613  
**SRL#:** 1270

**Reference Range:** <1.2 (see interpretation)  
No single test can definitively identify lupus anticoagulants. The Dilute Russell's Viper Venom Screen and Confirmation are performed when the modified APTT indicates the presence of an inhibitor that is not factor specific.

#### DIPHTHERIA CULTURE (See CULTURE, DIPHTHERIA)

#### DIPHTHERIA ANTIBODY

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 2 ml serum  
**Lab Section:** Serology  
**CPT:** 86648  
**SRL#:** 13209  
**Reference Range:** >= 0.01 IU/mL considered protective immunity  
**Method:** EIA

#### DIRECT ANTIGLOBULIN TEST (DAT) OR DIRECT COOMBS TEST

**Frequency/TAT:** Daily  
**Tube:** Pink  
**Specimen Required:** 6 ml  
**Lab Section:** Transfusion Services  
**CPT:** 86880  
**SRL#:** 4002 (for inpatient and outpatient), 14020 (physician offices/nursing homes)  
**Reference Range:** Negative  
Demonstrates in-vivo coating of rbcs with antibody and/or complement. If the DAT is positive, further testing is performed to determine the protein responsible. If the protein is IgG, the physician will be sent a request for follow-up testing for an eluate. Patient transfusion, medication and pregnancy histories may be requested.

#### DISOPYRAMIDE (NORPACE)

**Frequency/TAT:** Sun-F  
**Tube:** Red  
**Specimen Required:** 1 ml serum, refrigerate  
**Lab Section:** Chemistry  
**CPT:** 80299  
**SRL#:** 7920  
**Reference Range:** 2-5 ug/ml  
**Toxic Value:** > 6.0 ug/ml  
Do not use a gel barrier tube. EDTA (lavender) plasma is acceptable.

#### DNA ANTIBODY, EIA (DOUBLE STANDARD)

**Frequency/TAT:** M, Th  
**Tube:** Gel  
**Specimen Required:** 2 ml serum, refrigerate  
**Lab Section:** Serology  
**CPT:** 86225  
**SRL#:** 13078  
**Reference Range:** < 25 IU/ML



**Method:** EIA**DNA PLOIDY****Frequency/TAT:** M-F**Tube:** Cytology/Special Studies Transport**Specimen Required:** Urine in 10% neutral-buffered formalin**Lab Section:** Serology**CPT:** 88358**SRL#:** 13398**Method:** Image Analysis

Submit a copy of cytology report with specimen.

**DNA SINGLE STRAND ANTIBODY****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Serology**CPT:** 86226**SRL#:** 8129**Reference Range:** < 20 units/mL**Method:** EIA**DNASE B ANTIBODY****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Serology**CPT:** 86215**SRL#:** 8224**Reference Range:**

Adults &lt; 1:85

School Age &lt; 1:170

Pre-school Age &lt; 1:60

**Method:** Enzyme inhibition**DOXEPIN (SINEQUAN)****Frequency/TAT:** M-Sa**Tube:** Red**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 80166**SRL#:** 7810**Therapeutic Range:** 150-250 ng/ml combined**Toxic Value:** > 500 ng/ml combined.

Do not use a gel barrier tube. EDTA (pink) plasma is acceptable. Test includes Desmethyldoxepin.

**DRUG SCREEN, BASIC****Frequency/TAT:** Daily**Tube:** Urine**Specimen Required:** 25 ml random**Lab Section:** Chemistry**CPT:** 80101**SRL#:** 7714**Reference Range:** None detected.

Test includes cannabinoids and cocaine screens, urine Ph and specific gravity.

**DRUG SCREEN, COMPLETE****Frequency/TAT:** Daily**Tube:** Urine**Specimen Required:** 25 ml random**Lab Section:** Chemistry**CPT:** 80101**SRL#:** 7726**Reference Range:** None detected.

Test includes amphetamine, opiate, cannabinoid, cocaine, PCP, barbiturate, benzodiazepine, methadone, and propoxyphene screens, pH and specific gravity. Drug screen testing is available with or without chain-of-custody documentation. Please call Client Services at (757) 388-3621 for information.

**DRUG SCREEN U-5****Frequency/TAT:** Daily**Tube:** Urine**Specimen Required:** 25 ml random**Lab Section:** Chemistry**CPT:** 80101**SRL#:** 7699

Test includes amphetamine, cannabinoid, cocaine, opiate and PCP screens, pH and specific gravity.

**DRUG SCREEN U-6****Frequency/TAT:** Daily, STAT**Tube:** Urine**Specimen Required:** 25 ml random**Lab Section:** STAT Chemistry and POCT**CPT:** 80101**SRL#:** 6228

Test includes amphetamine, barbiturate, benzodiazepine, cannabinoid, cocaine, opiate screens, pH and specific gravity.

**E****EBV (See EPSTEIN-BARR VIRUS DNA, PCR)****E. HISTOLYTICA AB, IgG****Frequency/TAT:** M, W, F. Test takes 3 days to complete.

**Tube:** Gel  
**Specimen Required:** 1 ml serum, refrigerate  
**Lab Section:** Serology  
**CPT:** 86753  
**SRL#:** 8357  
**Reference Range:** < 0.9 OD  
**Method:** EIA

**ECHINOCOCCUS ANTIBODY**

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 2 ml serum, refrigerate  
**Lab Section:** Serology  
**CPT:** 83882  
**SRL#:** 8341  
**Reference Range:** > 0.8 index  
**Method:** EIA

**ECHO VIRUS ABS, PANEL**

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 2 ml serum, refrigerate  
**Lab Section:** Serology  
**CPT:** 86658 x 4  
**SRL#:** 13689  
**Reference Range:**  
     ECHO Virus 4 AB                      < 1:8  
     ECHO Virus 7 AB                      < 1:8  
     ECHO Virus 11 AB                     < 1:8  
     ECHO Virus 30 AB                    < 1:8  
**Method:** CF  
 Test includes ECHO Virus 4 AB, ECHO Virus 9 AB, ECHO Virus 11 AB, and ECHO Virus 30 AB. A fourfold or greater rise in titer between acute and convalescent specimens is of greatest diagnostic value,  $\geq 1:32$  considered diagnostic. Appropriate CPT coding may allow for the reimbursement of the above code five times; please verify this with your provider.

**EHRlichia ANTIBODIES (HME)**

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 1 ml  
**Lab Section:** Serology  
**CPT:** 86666 x 2  
**SRL#:** 13254  
**Reference Range:**

Ehrlichia IgG      < 1:64  
 Ehrlichia IgM      < 1:20

**Method:** IFA

Test includes Ehrlichia Chaffeensis IgG and Ehrlichia Chaffeensis IgM AB, which is the causative agent of HME (Human Monocytic Ehrlichiosis). HME is often referred to as "spotless" or rashless Rocky Mountain Spotted Fever. Appropriate CPT coding may allow for the reimbursement of the above code two times; please verify this with your provider.

**ELAVIL (See AMITRIPTYLINE)****ELECTROLYTE PANEL**

**Frequency/TAT:** Daily  
**Tube:** Gel  
**Specimen Required:** 1 ml serum, refrigerate  
**Lab Section:** Chemistry  
**CPT:** 80051  
**SRL#:** 6704  
 Test includes Sodium, Potassium, Carbon Dioxide and Chloride.

**ENA ANTIBODIES (Extractable Nuclear Antibodies)**

**Frequency/TAT:** T, F  
**Tube:** Gel  
**Specimen Required:** 2 ml serum, refrigerate  
**Lab Section:** Serology  
**CPT:** 86235 x 2  
**SRL#:** 13054  
**Reference Range:**  
     RNP      < 16 EU/ml  
     SM       < 16 EU/ml  
**Method:** EIA  
 Includes antibodies to Smith Antigen (SM) and Ribonucleoprotein (RNP).

**ENDOMETRIAL ANTIBODY**

**Frequency/TAT:** M-Th  
**Tube:** Gel  
**Specimen Required:** 2 ml serum, refrigerate  
**Lab Section:** Serology  
**CPT:** 88347  
**SRL#:** 13725  
**Reference Range:** Negative

Endometriosis is a condition in which the cells lining the uterus (endometrium) grow in the pelvic region of the abdominal cavity. It has been estimated that 17-40% of women of reproductive age have endometriosis.

Endometriosis can cause pain (dysmenorrhea, dyspareunia) and is often associated with infertility. This serum test detects if a patient has antibodies against endometrial antigens.

## E F

### ENDOMYSIAL IgA ANTIBODIES (See T-TRANSGLUTAMINASE IgA AB)

#### EOSINOPHIL COUNT

**Frequency/TAT:** Daily

**Tube:** Lavender

**Specimen Required:** 3.0 ml EDTA whole blood, refrigerate

**Lab Section:** Hematology

**CPT:** 89190

**SRL#:** 1024

**Reference Range:** 50-400/uL

#### EOSINOPHIL SMEAR

**Frequency/TAT:** Daily

**Specimen Required:** Smear(s) from source on glass slide. Place in Pap smear folder. Include source.

**Lab Section:** Hematology

**CPT:** 87205

**SRL#:** 1017

**Reference Range:** Based on specimen type.

#### EPSTEIN-BARR AB-EA R+D (EARLY ANTIGEN ABS)

**Frequency/TAT:** M-F

**Tube:** Gel

**Specimen Required:** 2 ml serum, refrigerate

**Lab Section:** Serology

**CPT:** 86663

**SRL#:** 8024

**Reference Range:** < 1:20

**Method:** IFA

**Tests recommended for patients greater than six years old.**

#### EPSTEIN-BARR AB-EA R+D, D (EARLY ANTIGEN ABS)

**Frequency/TAT:** M-F

**Tube:** Gel

**Specimen Required:** 2 ml serum, refrigerate

**Lab Section:** Serology

**CPT:** 86663 x 2

**SRL#:** 8023

**Reference Range:** < 1:20

**Method:** IFA

**Test recommended for patients less than six years old.**

#### EPSTEIN-BARR ANTIBODY PROFILE

**Frequency/TAT:** M-F

**Tube:** Gel

**Specimen Required:** 2 ml serum, refrigerate

**Lab Section:** Serology

**CPT:** 86663, 86664, 86665 x 2

**SRL#:** 8343, 8298, 8024, 8022

**Reference Range:** See individual tests.

**Test includes EBV VCA IgG AB, EBV VCA IgM AB, EBV Early Antigen AB, and EBV Nuclear Antigen AB.**

#### EPSTEIN-BARR ANTIBODY PROFILE, ACUTE

**Frequency/TAT:** M-F

**Tube:** Gel

**Specimen Required:** 2 ml serum, refrigerate

**Lab Section:** Serology

**CPT:** 86663, 86664, 86665 x 2

**SRL#:** 8343, 8298, 8024, 8022

**Reference Range:** See individual tests.

**Test includes EBV VCA IgG AB, EBV VCA IgM AB, EBV Early Antigen AB, and EBV Nuclear Antigen AB.**

#### EPSTEIN-BARR PROFILE, CHRONIC ACTIVE INFECTION

**Frequency/TAT:** M-F

**Tube:** Gel

**Specimen Required:** 2 ml serum, refrigerate

**Lab Section:** Serology

**CPT:** 86663, 86664, 86665

**SRL#:** 8343, 8024, 8022

**Reference Range:** See individual tests.

**Test includes EBV Early Antigen AB, EBV Nuclear Antigen AB and EBV VCA IgG AB.**

#### EPSTEIN-BARR VIRUS DNA, PCR

**Frequency/TAT:** M-F

**Tube:** Pink EDTA

**Specimen Required:** 7 ml whole blood (2 ml minimum), refrigerate.

**Lab Section:** Serology

**CPT:** 87799

**SRL#:** 13341

**Reference Range:** Not detected.  
**Method:** PCR This assay cannot detect less than 100 copies per 100,000 cells.

**EPSTEIN-BARR VIRUS DNA, PCR (FOR NON-BLOOD SPECIMENS)**

**Frequency/TAT:** M-F  
**Tube:** Sterile container, refrigerate  
**Specimen Required:** CSF, urine, various fluids;  
**Lab Section:** Serology  
**CPT:** 87799  
**SRL#:** 13366  
**Reference Range:** Not detected.  
**Method:** PCR. This assay cannot detect less than 100 copies per 100,000 cells.

**EPSTEIN-BARR VIRUS-VCA IgA (VIRAL CAPSID)**

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 1 ml serum, refrigerate  
**Lab Section:** Serology  
**CPT:** 86665  
**SRL#:** 13031  
**Reference Range:** < 1:10  
**Method:** IFA

**EPSTEIN-BARR VIRUS-VCA AB IgG (VIRAL CAPSID)**

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 2 ml serum, refrigerate  
**Lab Section:** Serology  
**CPT:** 86665  
**SRL#:** 8343  
**Reference Range:** < 20 Au  
**Method:** EIA

**EPSTEIN-BARR VIRUS-VCA AB IgM (VIRAL CAPSID)**

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 2 ml serum, refrigerate  
**Lab Section:** Serology  
**CPT:** 86665  
**SRL#:** 8298  
**Reference Range:** < 20 Au  
**Method:** EIA

**EPSTEIN-BARR VIRUS-AB SCREEN, ELISA (QUALITATIVE)**

**Frequency/TAT:** M, Th  
**Tube:** Gel  
**Specimen Required:** 2 ml serum, refrigerate  
**Lab Section:** Serology  
**CPT:** 86664  
**SRL#:** 8039

**Reference Range:** Negative. Negative: Anti EBNA IgG greater than IgM indicates previous exposure. Positive: Anti EBNA IgM equal to or greater than IgG indicates infectious mononucleosis, review clinical findings. Negative: Anti EBNA IgG/IgM not present; no previous exposure.

**EPSTEIN-BARR VIRUS-AB TO NUCLEAR ANTIGEN IgG**

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 2 ml serum, refrigerate  
**Lab Section:** Serology  
**CPT:** 86664  
**SRL#:** 8022  
**Reference Range:** < 20 Au  
**Method:** EIA

**ERYTHROPOIETIN**

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 1 ml serum, refrigerate  
**Lab Section:** Chemistry  
**CPT:** 82388  
**SRL#:** 8347  
**Reference Range:**  
 18 years-adult 4.2-27.8 mIU/ml

**ESR (SED RATE, SEDIMENTATION RATE)**

**Frequency/TAT:** Daily  
**Tube:** Lavender  
**Specimen Required:** 3.0 ml EDTA whole blood  
**Lab Section:** Hematology  
**CPT:** 85651  
**SRL#:** 1022  
**Reference Range:**

Age	Male	Female
0-12 years	0-10 mm/hr	0-10 mm/hr
12-50 years	0-15 mm/hr	0-20 mm/hr
> 50 years	0-20 mm/hr	0-30 mm/hr

Mix the tube by inversion after collection and refrigerate; clotted or hemolyzed specimens will be rejected.

**ESTRADIOL**

**Frequency/TAT:** Daily  
**Tube:** Gel  
**Specimen Required:** 2 ml serum  
**Lab Section:** Chemistry  
**CPT:** 82670  
**SRL#:** 8348  
**Reference Range:**

Male	0-54 ng/L
Premenstrual Females	0-54 ng/L
Menstruating Females	
(by day in cycle relative to LH Peak):	
Follicular Phase -12	11-69 ng/L
-4	63-165 ng/L
Mid Cycle Peak -1	146-526 ng/L
Luteal Phase +2	33-150 ng/L
+6	68-196 ng/L
+12	36-133 ng/L
Postmenopausal (untreated)	0-37 ng/L

# E F

**ESTRIOL, FREE****Frequency/TAT:** Su-F**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 82677**SRL#:** 7525**Reference Range:** See report.**ESTROGEN FRACTIONS****Frequency/TAT:** M-F**Tube:** 24-hour urine**Lab Section:** Chemistry**CPT:** 82671, 82679**SRL#:** 8350**Reference Range:**

	Estrone	Estradiol
Male	2-8 ug/g	1-4 ug/g
Female Follicular	2-39 ug/g	1-13 ug/g
Midcycle	11-46 ug/g	4-20 ug/g
Luteal	3-52 ug/g	1-17 ug/g

Collect a 24-hour urine specimen; add 10 grams of boric acid to the container prior to collection.

Refrigerate during collection. Send the entire specimen to the laboratory.

**ETHOSUXIMIDE (ZARONTIN)****Frequency/TAT:** Su-F**Tube:** Red**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 80168**SRL#:** 7925**Reference Range:** 40-100 ug/ml**Toxic Value:** > 100 ug/ml

Centrifuge and separate within 1 hour of collection. Do not collect in gel tube.

**ETHYLENE GLYCOL****Frequency/TAT:** Daily**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 82693**SRL#:** 7930**Reference Range:** None detected.**Units:** mg/dl

Do not remove stopper from collection tube.

Do no separate.

**ETIOCHOLANOLONE, URINE****Frequency/TAT:** M, W**Lab Section:** Chemistry**CPT:** See below.**SRL#:** 11995**Tube:** Urine

This test is not orderable, order Group 17-Ketosteroids Fractionated 24-hour (CPT: 83593, SRL #11995).

# F

**FACTOR II****Frequency/TAT:** M-F**Tube:** Blue**Specimen Required:** 1 ml citrated plasma**Lab Section:** Hematology**CPT:** 85210**SRL#:** 12302**Reference Range:** 50-150%

Centrifuge the specimen for 10 minutes as soon as possible after collection. Transfer the plasma to a labeled plastic tube and refrigerate. The specimen should be frozen if it will not be sent to the laboratory immediately.

**FACTOR II MUTATION (See PROTHROMBIN NUCLEOTIDE 20210)****FACTOR V****Frequency/TAT:** M-F**Tube:** Blue**Specimen Required:** 1 ml citrated plasma**Lab Section:** Hematology**CPT:** 85220**SRL#:** 12305**Reference Range:** Negative**FACTOR V LEIDEN****Frequency/TAT:** Daily. Test takes 5 days to complete.**Tube:** Blue and Lavender**Specimen Required:** 2 ml citrated plasma, frozen; 2 ml whole blood EDTA.**Lab Section:** Hematology**CPT:** 83903, 83898, 83890, 83912

**SRL#:** 00-20000

Do not centrifuge lavender specimen. Send to laboratory immediately. Factor V Leiden tests are performed by PCR and are done after positive screening with the Activated Protein C (APC) test. All positive APCs automatically reflex to Factor V Leiden. Requires Patient Informed Consent form.

**FACTOR VII****Frequency/TAT:** M-F**Tube:** Blue**Specimen Required:** 1 ml citrated plasma**Lab Section:** Hematology**CPT:** 85230**SRL#:** 12307**Reference Range:** 50-150%

Centrifuge the specimen for 10 minutes as soon as possible after collection. Transfer the plasma to a labeled plastic tube and refrigerate. The specimen should be frozen if it will not be sent to the laboratory immediately.

**FACTOR VIII****Frequency/TAT:** M-F**Tube:** Blue**Specimen Required:** 1 ml citrated plasma**Lab Section:** Hematology**CPT:** 85240**SRL#:** 12308**Reference Range:** 50-150%

Centrifuge the specimen for 10 minutes as soon as possible after collection. Transfer the plasma to a labeled plastic tube and refrigerate. The specimen should be frozen if it will not be sent to the laboratory immediately.

**FACTOR VIII ANTIGEN (von WILLEBRAND FACTOR ANTIGEN)****Frequency/TAT:** M-F**Tube:** Blue**Specimen Required:** 1 ml citrated plasma**Lab Section:** Hematology**CPT:** 85244**SRL#:** 1216**Reference Range:** 60-150%

Centrifuge the specimen for 10 minutes as soon as possible after collection. Transfer the plasma to a labeled plastic tube and refrigerate. The specimen should be frozen if it will not be sent to the laboratory immediately.

**FACTOR VIII, VW MULTIMERIC****Frequency/TAT:** M-F, Bi-Weekly**Tube:** Blue**Specimen Required:** 2 ml citrated plasma; 1 ml per tube**Lab Section:** Serology**CPT:** 85247**SRL#:** 13288**Reference Range:** Normal

Centrifuge the specimen for 10 minutes as soon as possible after collection. Transfer the plasma to a labeled plastic tube and refrigerate. The specimen should be frozen if it will not be sent to the laboratory immediately.

**FACTOR IX****Frequency/TAT:** M-F**Tube:** Blue**Specimen Required:** 1 ml citrated plasma**Lab Section:** Hematology**CPT:** 85250**SRL#:** 12309**Reference Range:** 50-150%

Centrifuge the specimen for 10 minutes as soon as possible after collection. Transfer the plasma to a labeled plastic tube and refrigerate. The specimen should be frozen if it will not be sent to the laboratory immediately.

**FACTOR X****Frequency/TAT:** M-F**Tube:** Blue**Specimen Required:** 1 ml citrated plasma**Lab Section:** Hematology**CPT:** 85260**SRL#:** 12310**Reference Range:** 50-150%

Centrifuge the specimen for 10 minutes as soon as possible after collection. Transfer the plasma to a labeled plastic tube and refrigerate. The specimen should be frozen if it will not be sent to the laboratory immediately.

**FACTOR Xa (LMWH) (See HEPARIN ANTI-Xa)**  
**FACTOR Xa (UNFRAC) (See HEPARIN ANTI-Xa)**

**FACTOR XI****Frequency/TAT:** M-F**Tube:** Blue**Specimen Required:** 1 ml citrated plasma**Lab Section:** Hematology**CPT:** 85270**SRL#:** 12311**Reference Range:** 50-150%

Centrifuge the specimen for 10 minutes as soon as possible after collection. Transfer the plasma to a labeled plastic tube and refrigerate. Do not freeze. Send to laboratory immediately.

**FACTOR XII****Frequency/TAT:** M-F**Tube:** Blue**Specimen Required:** 1 ml citrated plasma**Lab Section:** Hematology**CPT:** 85280**SRL#:** 12312**Reference Range:** 50-150%



Centrifuge the specimen for 10 minutes as soon as possible after collection. Transfer the plasma to a labeled plastic tube and refrigerate. The specimen should be frozen if it will not be sent to the laboratory immediately.

**FACTOR XIII**

**Frequency/TAT:** M-F

**Tube:** Blue

**Specimen Required:** 2 ml citrated plasma

**Lab Section:** Hematology

**CPT:** 85291

**SRL#:** 1213

**Reference Range:** Insoluble after 24 hours  
Centrifuge the specimen for 10 minutes as soon as possible after collection. Transfer the plasma to a labeled plastic tube and refrigerate. The specimen should be frozen if it will not be sent to the laboratory immediately.

**FACTOR INHIBITOR TITER**

**Frequency/TAT:** M-F

**Tube:** Blue

**Specimen Required:** 2 ml citrated plasma

**Lab Section:** Hematology

**CPT:** 85335

**SRL#:** 1253

**Reference Range:** None present.  
Centrifuge the specimen for 10 minutes as soon as possible after collection. Transfer the plasma to a labeled plastic tube and refrigerate. The specimen should be frozen if it will not be sent to the laboratory immediately. Specify factor to be titrated.

**FATTY ACIDS, FREE**

**Frequency/TAT:** Set up twice weekly

**Tube:** Gel on ice

**Specimen Required:** 2 ml serum, freeze

**Lab Section:** Chemistry

**CPT:** 82725

**SRL#:** 8361

**Reference Range:** 0.1-0.6 mEq/L  
Fasting specimen is required. The level of nonester free fatty acids is strongly influenced by food ingestion. Transfer specimen to plastic transport tube; freeze immediately and transport on ice.

**FEBRILE AGGLUTININS**

**Frequency/TAT:** M-F

**Tube:** Gel

**Specimen Required:** 2 ml serum, refrigerate

**Lab Section:** Serology

**CPT:** 86000 x 11

**SRL#:** 13708

**Reference Range:**

Brucella Abortus Abs	< 1:20
Salmonelle O Paratyphoid A	< 1:20
Salmonelle O Paratyphoid B	< 1:20
Salmonelle O Group D (Typhoid O)	< 1:20
Typhoid H, Group A	< 1:20
Typhoid H, Group B	< 1:20
Typhoid H, Group D	< 1:20
Proteus O x 19	< 1:20
Proteus O x 2	< 1:20
Proteus O x K	< 1:20
Francisella Tularensis	< 1:20
Method: Agglutination	

**FECAL FAT, QUALITATIVE**

**Frequency/TAT:** Daily

**Tube:** Stool container

**Specimen Required:** Fresh stool, do not add a preservative

**Lab Section:** Microbiology

**CPT:** 82705

**SRL#:** 2772

**FECAL FATS, QUANTITATIVE**

**Frequency/TAT:** T, Th

**Tube:** Stool container

**Specimen Required:** 72 hour stool collection, refrigerate.

**Lab Section:** Chemistry

**CPT:** 82710

**SRL#:** 8372

**Reference Range:**

0-5 years	0-2.0 gm/24 hours
Adults	0-7.0 gm/24 hours

Refrigerate specimen during collection over 72 hours. Special containers must be used for collection and transport of specimens. DO NOT fill can more than 2/3 full. Adults should be on a standard diet containing 50-150 g of fat per day for at least three days. For children, the amount of fat in the diet should be constant for one day before the test and during day of test. The patient should not have had mineral oil as a laxative prior to specimen collection.

**FECAL WBC'S**

**Frequency/TAT:** Daily

**Tube:** Clean container

**Specimen Required:** 1g of stool

**Lab Section:** Microbiology

**CPT:** 89055

**SRL #:** 12040

**Reference Range:** No PMN's seen.

Evaluation of fecal (stool) material for PMN's (WBC) by direct stain.

## FERRITIN

**Frequency/TAT:** Daily

**Tube:** Gel

**Specimen Required:** 1 ml serum, refrigerate

**Lab Section:** Chemistry

**CPT:** 82728

**SRL#:** 7130

**Reference Range:**

Male 22-322 ng/ml

Female 10-291 ng/ml

ABN may be required.

## FETAL FIBRONECTIN

**Frequency/TAT:** STAT

**Tube:** FFN swab

**Lab Section:** Urinalysis

**CPT:** 82731

**SRL#:** 6240

This test should not be ordered on gestational ages of less than 24 weeks 0 days or greater than 34 weeks 6 days. The specimen collection kit includes the only acceptable swab that can be used to collect vaginal specimens for this assay. Call Client Services at (757) 388-3621 if kits are needed. For symptomatic patients, the specimen should be obtained from the posterior fornix of the vagina during a sterile speculum examination. The Dacron swab provided in the specimen collection kit should be inserted into the vagina and lightly rotated across the posterior fornix for approximately 10 seconds to absorb the cervico-vaginal secretions. For asymptomatic patients, the specimen can be obtained from either the posterior fornix of the vagina or the ecto-cervical region of the external os during a sterile speculum examination. The Dacron swab provided in the specimen collection kit should be inserted into the vagina and lightly rotated across the posterior fornix for approximately 10 seconds to absorb the cervico-vaginal secretions. Once the specimen is obtained, carefully remove the swab from the vagina or cervical os and place it into the tube of buffer provided with the specimen collection kit. Label the specimen transport tube with the appropriate patient information and the date

and time of collection. The specimen should be transported to the laboratory avoiding extremes in temperature as soon as possible. Specimens should be obtained prior to digital cervical examination or vaginal probe ultrasound examination as manipulation of the cervix may cause the release of fetal fibronectin. Care must be taken not to contaminate

the swab or cervicovaginal secretions with lubricants, soaps, or disinfectants. These substances may interfere with absorption of the specimen by the swab or may directly interfere with the assay. The fetal fibronectin assay should be collected prior to any microbiologic cultures as aggressive collection for the cultures may abrade the vaginal mucosa. Cellular debris may interfere with the fibronectin assay. The specimen must be assayed within 3 days of collection to avoid degradation of the fetal fibronectin.

## FETAL LUNG MATURITY (FLM)

**Frequency/TAT:** Daily

**Tube:** Sterile container

**Specimen Required:** 2 ml amniotic fluid

**Lab Section:** Chemistry

**CPT:** 83663

**SRL#:** 6957

**Reference Range:**

Immature 3-39 mg/g

Borderline 40-54 mg/g

Mature > 54 mg/g

## FIBRIN DEGRADATION PRODUCTS (FDP) [SEE D-DIMER (QUALITATIVE)]

### FIBRINOGEN

**Frequency/TAT:** Daily

**Tube:** Blue

**Specimen Required:** 1 ml citrated plasma

**Lab Section:** Hematology

**CPT:** 85384

**SRL#:** 1222

**Reference Range:** 200-400 mg/dl

Centrifuge the specimen for 10 minutes as soon as possible after collection. Transfer the plasma to a labeled plastic tube and refrigerate. The specimen should be frozen if it will not be sent to the laboratory immediately.

### FIBRINOGEN ANTIGEN

**Frequency/TAT:** Weekly

**Tube:** Blue

**Specimen Required:** 1 ml citrated plasma

**Lab Section:** Hematology

**CPT:** 85385

**SRL#:** 1307

**Reference Range:** 200-450 mg/dl

Centrifuge the specimen for 10 minutes as soon as possible after collection. Transfer the plasma to a labeled plastic tube and refrigerate. The specimen should be frozen if it will not be sent to the laboratory immediately.

**FIBROBLASTS**

**Frequency/TAT:** M-F, 28 days  
**Tube:** Sterile specimen cup containing transport medium or Hanks Solution  
**Specimen Required:** .5cm tissue sample  
**Lab Section:** Cytogenetics  
**CPT:** 88233, 88262  
**SRL #:** 1606

**FILARIASIS ANTIBODY**

**Frequency/TAT:** M, W, F  
**Tube:** Gel  
**Specimen Required:** 2 ml serum, refrigerate  
**Lab Section:** Serology  
**CPT:** 83882  
**SRL#:** 8373  
**Reference Range:** < 1.0 Eu  
**Method:** EIA

**FISH for Bladder Cancer, UroVysion**

**Frequency/TAT:** Weekly  
**Tube:** Cytolyt container  
**Specimen Required:** 30 mL urine, refrigerated. Send to laboratory within 24 hours.  
**Lab Section:** Flow Cytometry  
**CPT:**  
**SRL#:** AP number assigned by section  
 Testing performed weekly and takes > 48 hours. Pathologist issues report.

**FITZGERALD FACTOR**

**Frequency/TAT:** Weekly  
**Tube:** Blue  
**Specimen Required:** 1 ml citrated plasma  
**Lab Section:** Hematology  
**CPT:** 85293  
**SRL#:** 1218  
**Reference Range:** Normal  
 Centrifuge the specimen for 10 minutes as soon as possible after collection. Transfer the plasma to a labeled plastic tube and refrigerate. The specimen should be frozen if it will not be sent to the laboratory immediately. Test may not be available due to limited supply of deficient plasma. Call laboratory to verify availability.

**FK506 (TACROLIMUS, PROGRAF)**

**Frequency/TAT:** Daily  
**Tube:** Lavender  
**Specimen Required:** 2 ml whole blood  
**Lab Section:** Chemistry

**CPT:** 80197

**SRL#:** 10002

Therapeutic ranges have not been established for this method.

**FLECAINIDE (TAMBOCOR)**

**Frequency/TAT:** Daily  
**Tube:** Red  
**Specimen Required:** 1 ml serum, refrigerate  
**Lab Section:** Chemistry  
**CPT:** 82491  
**SRL#:** 7104  
**Reference Range:** 0.2-1.0 ug/ml therapeutic  
 Transfer serum to a plastic transport tube. Do not use a gel barrier tube for collection. Specimens should be collected prior to administration of dose (trough value).

**FLETCHER FACTOR**

**Frequency/TAT:** Weekly  
**Tube:** Blue  
**Specimen Required:** 1 ml citrated plasma  
**Lab Section:** Hematology  
**CPT:** 85292  
**SRL#:** 1217  
**Reference Range:** Normal  
 Centrifuge the specimen for 10 minutes as soon as possible after collection. Transfer the plasma to a labeled plastic tube and refrigerate. The specimen should be frozen if it will not be sent to the laboratory immediately. Test may not be available due to limited supply of deficient plasma. Call laboratory to verify availability.

**FLOW CYTOMETRY**

**Frequency/TAT:** M-F  
**Tube:** Varies per specimen, see test listings below.  
**Lab Section:** Flow Cytometry  
**CPT:** 88184, 88185  
**SRL#:** Varies per specimen, see test listings below. Testing not available on weekends or

holidays. Refer to individual specimen listings for specific testing, collection and transportation information. Specimens may include bone marrow, lymph node/tissue, peripheral blood, CSF, synovial fluid, or pleural fluid. Send with regular courier Monday – Friday. Call the Flow Cytometry Lab at 388-3218 to notify of specimen collection. After noon on Friday a stat courier must be called to deliver specimen. Send a copy of the patient history and current CBC/differential. Indicate the patient's diagnosis and ordering physician on the requisition. The specimen must not be frozen or refrigerated; store at room temperature.

#### **FLOW CYTOMETRY, BONE MARROW**

**Frequency/TAT:** M-F

**Tube:** Green – sodium heparin preferred. ACD yellow may also be used.

**Specimen Required:** 0.5 ml

**Lab Section:** Flow Cytometry

**CPT:** 88184, 88185

Testing not available on weekends or holidays. Send with regular courier Monday – Friday. Call the Flow Cytometry Lab at 388-3218 to notify of specimen collection. For a new acute leukemia call 388-3219 for stat courier pickup. After noon on Friday a stat courier must be called to deliver specimen. Send a copy of the patient history and current CBC/differential. Indicate the patient's diagnosis and ordering physician on the requisition. The specimen must not be frozen or refrigerated; store at room temperature.

#### **FLOW CYTOMETRY, CSF**

**Frequency/TAT:** M-F

**Tube:** Plain CSF

**Specimen Required:** 5 ml (can be refrigerated)

**Lab Section:** Flow Cytometry

**CPT:** 88184, 88185

Testing not available on weekends or holidays. CSF specimens must be received as soon as possible after collection. Call the Flow Cytometry Lab at 388-3218 to notify of specimen collection. After noon on Friday a STAT courier must be called to deliver specimen. Send a copy of the patient history and current CSF cell counts/differential. Indicate diagnosis and ordering physician.

#### **FLOW CYTOMETRY, LYMPH NODE OR TISSUE**

**Frequency/TAT:** M-F, by noon

**Tube:** Tissue in media

**Specimen Required:** 5 cu mm

**Lab Section:** Flow Cytometry

**CPT:** 88184, 88185

Testing not available on weekends or holidays. Send with regular courier Monday – Friday.

Call the Flow Cytometry Lab at 388-3218 to notify of specimen collection. After noon on Friday a stat courier must be called to deliver specimen. Send a copy of the patient history and current diagnosis and indicate ordering physician on the requisition. The specimen must be in a labeled container with 20 ml of transport media (McCoy's 5A media, RPMI media, or Medium 199). Specimen should be kept refrigerated.

#### **FLOW CYTOMETRY, PERIPHERAL BLOOD**

**Frequency/TAT:** M-F

**Tube:** ACD yellow preferred. Green – sodium heparin may also be used.

**Specimen Required:** 2.5 ml

**Lab Section:** Flow Cytometry

**CPT:** 88184, 88185

Testing not available on weekends or holidays. Send with regular courier Monday – Friday. Call the Flow Cytometry Lab at 388-3218 to notify of specimen collection. For a new acute leukemia call 388-3219 for stat courier pickup. After noon on Friday a stat courier must be called to deliver specimen. Send a copy of the patient history and current CBC/differential. Indicate the patient's diagnosis and ordering physician on the requisition. The specimen must not be frozen or refrigerated; store at room temperature.

#### **FLOW CYTOMETRY, PLEURAL FLUID**

**Frequency/TAT:** M-F

**Tube:** ACD-A, sodium heparin or plain tube

**Specimen Required:** 20 ml fluid

**Lab Section:** Flow Cytometry

**CPT:** 88184, 88185

Testing not available on weekends or holidays. Send with regular courier Monday – Friday as soon as possible after collection. Call the Flow Cytometry Lab at 388-3218 to notify of specimen collection. Call 388-3219 for stat courier after noon on Friday. Indicate the patient's diagnosis and ordering physician on the requisition. The specimen may be refrigerated.

#### **FLOW CYTOMETRY, SYNOVIAL FLUID**

**Frequency/TAT:** M-F, by noon

**Tube:** ACD-A or Na Heparin

**Specimen Required:** 20 ml fluid

**Lab Section:** Flow Cytometry

**CPT:** 88184, 88185

Testing not available on weekends or holidays. Send with regular courier Monday – Friday as

soon as possible after collection. Call the Flow Cytometry Lab at 388-3218 to notify of specimen collection. Call 388-3219 for stat courier after noon on Friday. Indicate the patient's diagnosis and ordering physician on the requisition. The specimen may be refrigerated.

#### FLU ANTIBODIES (See INFLUENZA)

#### FLUOXETINE (PROZAC)

**Frequency/TAT:** M-F

**Tube:** Red

**Specimen Required:** 2 ml serum, refrigerate

**Lab Section:** Chemistry

**CPT:** 82491

**SRL#:** 6637

**Reference Range:**

Fluoxetine 91-302 ng/ml

Norfluoxetine 72-258 ng/ml

Test includes Norfluoxetine. Do not use a barrier gel tube for collection.

#### FLURAZEPAM (See DALMANE)

#### FOLATE (See FOLIC ACID, SERUM)

#### FOLATE/VitB12

**Frequency/TAT:** Daily

**Tube:** Gel

**Specimen Requirement:** 1 ml serum, refrigerate

**Lab Section:** Chemistry

**CPT:** 82746, 82607

**SRL#:** 10631

**Reference Range:**

Folate > 5.38 mcg/L

Vitamin B12 211-911 pg/ml

Patient should be fasting and should not have had recent radiology examinations that involve the ingestion or injection of radioactive materials. Hemolysis interferes with this test. Protect specimen from light.

#### FOLIC ACID RBC (RBC FOLATE)

**Frequency/TAT:** Su-F

**Tube:** Pink (2 tubes)

**Specimen Requirement:** 1 tube whole blood, refrigerate and 1 tube whole blood, freeze

**Lab Section:** Chemistry

**CPT:** 82747

**SRL#:** 8374

**Reference Range:** 280 - 791 ng/ml

Transfer contents from one whole blood tube into a plastic transport tube and freeze.

Refrigerate second whole blood tube. Protect specimen from light.

#### FOLIC ACID, SERUM (FOLATE)

**Frequency/TAT:** Daily

**Tube:** Gel

**Specimen Required:** 1 ml serum, refrigerate

**Lab Section:** Chemistry

**CPT:** 82746

**SRL#:** 7136

**Reference Range:**  $\geq 5.38$  mcg/L

Patient should be fasting; hemolysis interferes with this test, and should not have had recent radiology examinations that involve the ingestion or injection of radioactive material. Protect specimen from light.

#### FOLLICLE STIMULATING HORMONE (FSH)

**Frequency/TAT:** Daily

**Tube:** Gel

**Specimen Requirement:** 1ml serum at room temperature

**Lab Section:** Chemistry

**CPT:** 83001

**SRL#:** 7140

**Reference Ranges:**

Male 1.4-18.1 MIU/ML

Female

Follicular Phase 2.50-10.20 MIU/ML

Midcycle 3.40-33.40 MIU/ML

Luteal Phase 1.50-9.10 MIU/ML

Pregnant 0.0-0.3 MIU/ML

Postmenopausal 23.0-116.3 MIU/ML

#### FRUCTOSAMINE

**Frequency/TAT:** M-F

**Tube:** Gel

**Specimen Required:** 2 ml serum, room temperature

**Lab Section:** Chemistry

**CPT:** 82985

**SRL#:** 10772

Indicated as an index of longer-term control than glucose levels, especially in diabetic subjects with abnormal hemoglobins and in type-1 diabetes in children. Separate from cells within 45 minutes and maintain at room temperature.

#### FSH (See FOLLICLE STIMULATING HORMONE)

#### FTA-ABS

**Frequency/TAT:** M-F

**Tube:** Gel

**Specimen Required:** 2 ml serum, refrigerate

**Lab Section:** Serology



**CPT:** 86781  
**SRL#:** 8045  
**Reference Range:** Non reactive  
**Method:** IFA  
 Reactive results are reported to Norfolk Public Health. RPR's will be performed on all FTA's.

#### **FUNGAL ANTIBODY SCREEN, CF**

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 2 ml serum, refrigerate  
**Lab Section:** Serology  
**CPT:** 86606  
**SRL#:** 8378  
**Reference Range:**  
     Aspgil, Histo, Blasto < 1:8  
     Coccidio < 1:2  
**Method:** CF  
 Test includes Aspergillus, Blastomyces AB, Coccidioides AB, and Histoplasma AB (yeast and mycelial).

#### **FUNGAL ANTIBODY SCREEN, ID**

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 2 ml serum, refrigerate  
**Lab Section:** Serology  
**CPT:** 86606, 86635, 86612, 86698  
**SRL#:** 13620  
**Reference Range:** Negative  
**Method:** ID  
 Test includes Aspergillus Fumigatus AB, Aspergillus Nigor AB, Aspergillus Flavus AB, Blastomyces AB, Coccidioides AB, and Histoplasma AB.

#### **FUNGAL CULTURE (See CULTURE, FUNGUS)**

## **G**

#### **GABAPENTIN, SERUM (NEURONTIN)**

**Frequency/TAT:** M-F  
**Tube:** Red  
**Specimen Required:** 2 ml serum, room temperature  
**Lab Section:** Chemistry  
**CPT:** 82491  
**SRL#:** 10101  
**Reference Range:** 4.0-16.0 ug/ml  
 Transfer separated serum to a plastic tube.

#### **GAGS (GLUCOSAMINOGLYCANS) (See ACID MUCOPOLYSACCHARIDE)**

#### **GALACTOSE-1-PHOS URIDYLTRANSFERASE**

**Frequency/TAT:** 3-7 days  
**Tube:** Green  
**Specimen Required:** 2 ml heparinized whole blood. Do not freeze specimen.

**Lab Section:** Chemistry  
**CPT:** 82775  
**SRL#:** 8386  
**Reference Range:** See report.

#### **GAMMA-GLUTAMYL TRANSFERASE (GGT)**

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 1 ml serum, refrigerate  
**Lab Section:** Chemistry  
**CPT:** 82977  
**SRL#:** 6845  
**Reference Range:**  
     0 minutes-1 mo. 0-206 units/L  
     1 month-2 mos. 0-118 units/L  
     2 months-3 mos. 4-120 units/L  
     3 months-6 mos. 11-51 units/L  
     6 months-1 year 1-39 units/L  
     1 year-12 yrs. 3-22 units/L  
     12 years-18 yrs. 2-42 units/L  
     18 years-110 yrs. 5-60 units/L  
 Hemolysis interferes with test.

#### **GASTRIC ANALYSIS PROFILE**

**Frequency/TAT:** M-F  
**Tube:** Fluid  
**Specimen Required:** 7 ml fluid, refrigerate  
**Lab Section:** Chemistry  
**CPT:** 82926  
**SRL#:** 6055  
**Reference Range:**  
 Free  
 acid: Basal Secretion 0.0 - 0-40 mEq/L  
       Post stimulation 10.0 - 130 mEq/L  
 Total Basal Secretion 10.0 - 60.0mEq/L  
 pH: 1.5-3.5 mEq/L

Test includes pH, total titratable acid, and free acid. If multiple specimens, basal and post-stimulation, are collected, please note the collection time on each container.

#### **GASTRIN, SERUM**

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 2 ml serum, freeze  
**Lab Section:** Chemistry  
**CPT:** 82941  
**SRL#:** 7145  
**Reference Range:**



> 16 years      0-115 pg/ml

Patient should be fasting 12-14 hours. Separate and freeze serum as soon as possible.

## GASTRIN STIMULATION (See SECRETIN)

### GC BY AMPLIFICATION

**Frequency/TAT:** M-F

**Tube:** Gen-Probe Aptima unisex swab collection kit or Gen-Probe Aptima urine specimen transport kit.

**Specimen Required:** 20 ml first void urine (patient should not have urinated for 1 hour prior to specimen collection) or endocervical/urethral swab specimen, in appropriate transport media, refrigerated or at room temperature.

**Lab Section:** Serology

**CPT:** 87591

**SRL#:** #13717 (cervical or urethral), #13351 (urine)

**Reference Range:** Negative

**Method:** Nucleic acid amplification

Causes for rejection include bacterial swab specimens, transports with multiple swabs, transports with white cleansing swabs, specimens received with seal on cup broken, perforated or leaking, dry specimens, specimens submitted in fixative or additives, specimens received in expired transport media or incorrect transport device, inappropriate specimen transport conditions, specimens received after prolonged delay in transport. Urine not transferred into Aptima transport tube within 24 hours.

### GENTAMICIN

**Frequency/TAT:** Daily

**Tube:** Gel

**Specimen Required:** 1 ml serum, refrigerate

**Lab Section:** Chemistry

**CPT:** 80170

**SRL#:** 7150

**Reference Range:**

	Therapeutic	Toxic Values
Peak	5-10 ug/ml	> 12 ug/ml
Trough	0.5-2.0 ug/ml	> 2.0 ug/ml

Centrifuge and separate within 1 hour of collection. Freeze serum for storage.

### GGT (See GAMMA-GLUTAMYL TRANSFERASE)

### GIARDIA EIA, STOOL

**Frequency/TAT:** Daily

**Tube:** Stool container, 10% formalin or Cary Blair media

**Specimen Required:** Fresh stool, refrigerate

**Lab Section:** Microbiology

**CPT:** 87329

**SRL#:** 16165

Specimens no smaller than a pea can be submitted in clean catch cup. A minimum amount of 100 mg (walnut size) of stool is required. Submit stool specimen in 10% formalin or fresh specimen in media within 24 hours following collection. Please note, rectal swabs are unacceptable.

### GLIADIN AB IgA

**Frequency/TAT:** M-F

**Tube:** Gel

**Specimen Required:** 1 ml serum, refrigerate

**Lab Section:** Serology

**CPT:** 83516

**SRL#:** 13580

**Reference Range:** < 20 units

### GLIADIN AB IgG

**Frequency/TAT:** M-F

**Tube:** Gel

**Specimen Required:** 1 ml serum, refrigerate

**Lab Section:** Serology

**CPT:** 83516

**SRL#:** 13575

**Reference Range:** < 20 units

### GLOMERULAR BASEMENT MEMBRANE AB

**Frequency/TAT:** M-F

**Tube:** Gel

**Specimen Required:** 1 ml serum, refrigerate

**Lab Section:** Serology

**CPT:** 83520

**SRL#:** 13698

**Reference Range:** <= 20 units

**Method:** EIA

### GLUCOLA, 1 HOUR (GESTATIONAL DIABETES SCREEN)

**Frequency/TAT:** Daily

**Tube:** Gel

**Specimen Required:** 1 ml serum, refrigerate

**Lab Section:** Chemistry

**CPT:** 82950

**SRL#:** 10055

Centrifuge and separate within 1 hour of collection. In pregnant women, a level of > 140 mg/dl following a 50 g glucose oral dose is considered an indication for further testing.

**GLUCOSAMINOGLYCANS (GAGS)  
(See ACID MUCOPOLYSACCHARIDE)  
GLUCOSE**

**Frequency/TAT:** Daily

**Tube:** Gel

**Specimen Required:** 1 ml serum, refrigerate

**Lab Section:** Chemistry

**CPT:** 82947

**SRL#:** 6601

**Reference Range:**

		Critical Values
0-1 day	40-60 mg/dl	< 40 > 200 mg/dl
1 day-1 week	50-80 mg/dl	< 40 > 200 mg/dl
1 week - 1 year	65 - 99 mg/dl	< 40 > 200 mg/dl
> 1 year	65 - 99 mg/dl	< 50 > 300 mg/dl

Patient should be fasting.

**GLUCOSE 6 PHOSPHATE DEHYDROGENASE**

**Frequency/TAT:** M-F

**Tube:** Lavender

**Specimen Required:** 3.0 ml EDTA whole blood

**Lab Section:** Hematology

**CPT:** 82955, 85041

**SRL#:** 1026

**Reference Range:** 146-376 u/TRLRBC

**GLUCOSE TOLERANCE TEST (GTT), GESTATIONAL DIABETES**

**Frequency/TAT:** Daily

**Tube:** Gel

**Specimen Required:** 1 ml serum each specimen

**Lab Section:** Chemistry

**CPT:** 82951, 82952

**SRL#:** 11940

**Reference Range:**

Fasting	< 95 mg/dl
One hour	< 180 mg/dl
Two hour	< 155 mg/dl
Three hour	< 140 mg/dl

Requires use of a 100 g glucose load. Test includes fasting, one, two, and three-hour glucose results. Please call Sentara central scheduling or Client Services to schedule an appointment for this test.

**GLUCOSE TOLERANCE TEST (GTT), NON-GESTATIONAL DIABETES**

**Frequency/TAT:** Daily

**Tube:** Gel

**Specimen Required:** 1 ml serum each specimen

**Lab Section:** Chemistry

**CPT:** 82950, 82947

**SRL#:** 10058

**Reference Range:**

Normal glucose tolerance

<100 mg/dl

Impaired glucose tolerance

100 - 125 mg/dl

Provisional diagnosis, diabetes

≥126 mg/dl

The diagnosis must be confirmed by additional testing on a subsequent day. Requires use of a 75 g glucose load. Test includes fasting and two-hour glucose results. Interpretation of the GTT for non-pregnant adults and children is based on the 2-hour glucose. For children under 95 lb. (43 kg) give 1.75 g/kg body weight. Please call Sentara central scheduling or Client Services to schedule an appointment for this test.

**G  
H**

**GLUCOSE, URINE**

**Frequency/TAT:** Daily

**Tube:** Urine

**Specimen Required:** 10 ml, refrigerate

**Lab Section:** Chemistry

**CPT:** 82945

**SRL#:** 6866

**Reference Range:** 40-100 mg/24-hour

10 ml aliquot of random or timed urine collected without preservative. A 24-hour specimen should be kept cold during collection. Either send the entire 24-hour collection, or note the 24-hour volume.

**GLYCOHEMOGLOBIN (HGB), TOTAL**

**Frequency/TAT:** M-F

**Tube:** Pink

**Specimen Required:** 7 ml whole blood, EDTA

**Lab Section:** Chemistry

**CPT:** 83036

**SRL#:** 10100

**Reference Range:** 4.2-7.0%

Maintain specimen at room temperature.

Stability of Glycohemoglobin in other anticoagulants cannot be guaranteed.

**GLYCOSYLATED HGB [See GLYCOHEMOGLOBIN (HGB), TOTAL]**

**GOT (AST) (see SGOT)**

**GPT (ALT) (See SGPT)**

## GRAM STAIN

**Frequency/TAT:** Daily  
**Tube:** Sterile container or swab in transport media  
**Specimen Required:** 2 ml  
**Lab Section:** Microbiology  
**CPT:** 87205  
**SRL#:** 2900  
 Send a second swab if a culture is also requested. Gram Stain will be billed separately from culture.

## GRANULOCYTE ANTIBODY

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 2 ml, refrigerate  
**Lab Section:** Serology  
**CPT:** 86021  
**SRL#:** 13762  
**Reference Range:** Negative  
 Test is also called Neutrophil Antibody, please indicate SRL test number 13762 when ordering.

## GROWTH HORMONE

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 1 ml serum, refrigerate  
**Lab Section:** Chemistry  
**CPT:** 83003  
**SRL#:** 8390  
**Reference Range:**

1 day	5-53 ng/mL
1 week	5-27 ng/mL
1 week-1 year	2-10 ng/mL
1 year-adult	< 5ng/mL

Patient should be fasting for initial testing; other procedures may involve stimulation with food or insulin (either as an injected stimulus or natural release).

## H

## HALOPERIDOL (HALDOL)

**Frequency/TAT:** M-F  
**Tube:** Red  
**Specimen Required:** 4 ml serum  
**Lab Section:** Chemistry  
**CPT:** 80173  
**SRL#:** 10580  
**Therapeutic Range:** 4-26 ng/ml  
**Potentially Toxic Value:** > 50 ng/ml  
 Centrifuge and separate serum within one hour of collection.

## HAMM'S TEST (See PNH SCREEN)

## HAPTOGLOBIN

**Frequency/TAT:** Daily  
**Tube:** Gel  
**Specimen Required:** 1 ml serum, refrigerate  
**Lab Section:** Chemistry  
**CPT:** 83010  
**SRL#:** 7550  
**Reference Range:** 30-200 mg/dl

## HDL CHOLESTEROL

**Frequency/TAT:** Daily  
**Tube:** Gel  
**Specimen Required:** 1 ml serum, refrigerate  
**Lab Section:** Chemistry  
**CPT:** 83718  
**SRL#:** 6870  
**Reference Range:** 40-59 mg/dL  
 Hemolysis and bilirubin interfere with the test. ABN may be required.

## HEAVY METAL SCREEN URINE

**Frequency/TAT:** T, Th  
**Tube:** Urine  
**Specimen Required:** 15 ml, room temperature  
**Lab Section:** Chemistry  
**CPT:** 82175, 83655, 83825, 82570  
**SRL#:** 10756  
 Collect a 24-hour urine specimen, without preservative. Send the entire specimen to the laboratory. Test includes a screening procedure for arsenic, lead and mercury. If lead poisoning is suspected, blood is the preferred sample. Patient should avoid seafood and red wine for 72 hours prior to collection.

## HELICOBACTER PYLORI ANTIGEN, STOOL

**Frequency/TAT:** M-F  
**Tube:** Sterile container  
**Specimen Required:** 10 ml stool  
**Lab Section:** Serology  
**CPT:** 87338  
**SRL#:** 13645  
**Reference Range:** Not detected.  
**Method:** EIA

## HELICOBACTER PYLORI IgA

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 2 ml serum  
**Lab Section:** Serology  
**CPT:** 86677  
**SRL#:** 13525  
**Reference Range:** < 0.89 index  
**Method:** EIA

**HELICOBACTER PYLORI IgG****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 2 ml serum**Lab Section:** Serology**CPT:** 86677**SRL#:** 13201**Reference Range:**  $\leq 0.9$  index**Method:** EIA**HELICOBACTER PYLORI: IgM****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 2 ml serum**Lab Section:** Serology**CPT:** 86677**SRL#:** 13449**Reference Range:**  $< 0.8$  index**HELICOBACTER PYLORI SCREENING (CLO TEST/ PYLORITEC)****Frequency/TAT:** Daily**Lab Section:** Microbiology**CPT:** 87081**SRL#:** 16168

Gastric biopsy specimen collected for Helicobacter pylori screening test.

**HELPER-SUPPRESSOR RATIO****Frequency/TAT:** M-F**Tube:** Yellow and lavender**Specimen Required:** 2 ml ACD-A and 2 ml EDTA**Lab Section:** Flow Cytometry**CPT:** 86361, 86360**SRL#:** 15014

Testing not available on weekends or holidays. Specimens for testing should not be collected between Friday noon and Sunday noon and must be received by noon on Friday. Test includes CD4% and absolute, CD8% and absolute, and CD4/CD8 ratio. Order CD4/CD8 and CBC/diff or send CBC/diff results collected within 24 hours of CD4/CD8 collection. Use the fluorescent-labeled transport bags if available. The specimen must not be frozen or refrigerated; store at room temperature.

**HEMATOCRIT****Frequency/TAT:** Daily**Tube:** Lavender**Specimen Required:** 3 ml EDTA whole blood**Lab Section:** Hematology**CPT:** 85014**SRL#:** 1004**Reference Range:** See Hematology Standardized Reference Ranges.

Mix the tube by inversion after collection and refrigerate; clotted or hemolyzed specimens will be rejected. One microtainer is acceptable for capillary collection.

**HEMOCHROMATOSIS PCR (GENOTYPE)****Frequency/TAT:** M-F**Tube:** Pink**Lab Section:** Serology**CPT:** 83890, 83898, 83912**SRL#:** 13489**Reference Range:** See report.

Test includes mutation analysis for C282Y and H63D.

**HEMOGLOBIN****Frequency/TAT:** Daily**Tube:** Lavender**Specimen Required:** 3 ml EDTA whole blood**Lab Section:** Hematology**CPT:** 85018**SRL#:** 1003**Reference Range:** See Hematology Standardized Reference Ranges.

Mix the tube by inversion after collection and refrigerate; clotted or hemolyzed specimens will be rejected. One microtainer is acceptable for capillary collection.

**HEMOGLOBIN A1C (HGB A1C)****Frequency/TAT:** Daily**Tube:** Lavender**Specimen Required:** 5 ml whole blood**Lab Section:** Chemistry**CPT:** 83036**SRL#:** 8406**Reference Range:** 4.8 – 5.9% A1C

This is Hgb A1C fraction of glycosylated hemoglobins. Do not centrifuge or freeze the specimen. Covered by Medicare once every 3 months. ABN may be required.

## HEMOGLOBIN A2 COLUMN

**Frequency/TAT:** Daily  
**Tube:** Lavender  
**Specimen Required:** 2 ml whole blood  
**Lab Section:** Chemistry  
**CPT:** 83021  
**SRL#:** 8403  
**Reference Range:** 0.7 – 3.1%  
 Do not freeze or centrifuge the specimen.  
 Blood transfusion prior to testing may make the interpretation inconsistent.

## HEMOGLOBIN ELECTROPHORESIS

**Frequency/TAT:** T, Th  
**Tube:** Lavender  
**Specimen Required:** 5 ml whole blood  
**Lab Section:** Chemistry  
**CPT:** 83020  
**SRL#:** 10037  
**Reference Range:**

Hgb A1	96-100%
Hgb A2	2.5-3.5%

A separate professional fee for interpretation will be charged.

## HEMOGLOBIN, FREE

**Frequency/TAT:** Su-F  
**Tube:** Green (Heparinized plasma)  
**Specimen Required:** 1 ml plasma, refrigerate  
**Lab Section:** Chemistry  
**CPT:** 83051  
**SRL#:** 6871  
**Reference Range:** 0-5 mg/dl  
 Hemolysis interferes with the test. Values obtained between 5-15 mg/dl should be interpreted with caution since such variables as suboptimal venipuncture may increase results to this range. High (> 20 mg/dl) bilirubin, turbidity, methemalbuminemia, lipemic plasma and hemolysis during or after venipuncture may cause falsely elevated values in the plasma hemoglobin test. Method based on peroxide oxidation of TMB.

## HEMOGLOBIN (HGB), FETAL, QUANTITATION (HGB F)

**Frequency/TAT:** 3 days  
**Tube:** Lavender  
**Specimen Required:** 3 ml whole blood adult, 1 ml whole blood pediatric  
**Lab Section:** Chemistry  
**CPT:** 83021  
**SRL#:** 10104  
**Reference Range:**  
 > 1 year 0.0-2.0%  
 Refrigerate at 2-8 degrees Celsius.

## HEPARIN AGGREGATION

**Frequency/TAT:** M, W, F  
**Tube:** Blue  
**Specimen Required:** 1 ml citrated plasma  
**Lab Section:** Hematology  
**CPT:** 85576  
**SRL#:** 1316  
**Reference Range:** No aggregation.  
 Centrifuge the specimen for 5-10 minutes as soon as possible after collection. Transfer the plasma to a labeled plastic tube and freeze. The patient must not be on Heparin for 24 hours prior to testing. This test should not be performed on patients receiving low molecular weight Heparin.

## HEPARIN ANTI-Xa (LOW MOLECULAR WEIGHT) [FACTOR Xa (LMWH)]

**Frequency/TAT:** Daily  
**Tube:** Blue  
**Specimen Required:** 1 ml citrated plasma  
**Lab Section:** Hematology  
**CPT:** 85520  
**SRL#:** 1272  
**Therapeutic Range:** 0.30-1.00 IU/ml

## HEPARIN ANTI-Xa (UNFRACTIONATED) [FACTOR Xa (UNFRAC)]

**Frequency/TAT:** Daily  
**Tube:** Blue  
**Specimen Required:** 1 ml citrated plasma  
**Lab Section:** Hematology  
**CPT:** 85520  
**SRL#:** 1271  
**Therapeutic Range:** 0.30-0.70 IU/ml

## HEPARIN INDUCED ANTIBODIES (See HIT PANEL)

## HEPATIC FUNCTION PANEL

**Frequency/TAT:** Daily  
**Tube:** Gel  
**Specimen Required:** 2 ml serum, refrigerate  
**Lab Section:** Chemistry  
**CPT:** 80076  
**SRL#:** 10031  
 Test includes ALT, Alkaline Phosphatase, AST, Total Protein, Direct Bilirubin, Total Bilirubin, and Albumin.

## HEPATITIS A IgM ANTIBODY (HAV IGM)

**Frequency/TAT:** Daily  
**Tube:** Gel  
**Specimen Required:** 1 ml serum, refrigerate  
**Lab Section:** Chemistry  
**CPT:** 86709  
**SRL#:** 8230  
**Reference Range:** None detected.

**HEPATITIS A TOTAL ANTIBODY (HAV TOTAL)****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 86708**SRL#:** 8231**Reference Range:** None detected.**HEPATITIS B CORE IgM ANTIBODY (HBC IgM)****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 86705**SRL#:** 8496**Reference Range:** None detected.**HEPATITIS B e ANTIBODY (HBe AB)****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 86707**SRL#:** 8233**Reference Range:** Negative**HEPATITIS B e ANTIGEN (HBe AG)****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 87350**SRL#:** 8234**Reference Range:** Negative**HEPATITIS B SURFACE ANTIBODY (HBs AB)****Frequency/TAT:** Daily**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 86706**SRL#:** 8235**Reference Range:** None detected.**HEPATITIS B SURFACE ANTIBODY QUANT (HBs AB QUANT)****Frequency/TAT:** Daily**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 86706**SRL#:** 10739**Reference Range:** See interpretation on patient chart.**HEPATITIS B SURFACE ANTIGEN (HBs AG)****Frequency/TAT:** Daily**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 87340**SRL#:** 8236**Reference Range:** None detected.**HEPATITIS C ANTIBODY (Hep C AB)****Frequency/TAT:** Daily**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 86803**SRL#:** 6924**Reference Range:** None detected.**HEPATITIS C VIRUS (HCV) GENOTYPING****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 1 ml frozen serum**Lab Section:** Molecular**CPT:** 87902**SRL#:** 20030**Reference Range:** None.**Method:** PCR and DNA sequencing

Viral load is required before testing can be performed. HCV RNA PCR will be ordered and billed if needed for genotype.

**HEPATITIS C VIRUS ANTIBODY, IMMUNOBLOT ASSAY (RIBA)****Frequency/TAT:** 3 days**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 86804**SRL#:** 10065**Reference Range:** Negative

This test is to be used as an additional, more specific test on human serum specimens found to be repeatedly reactive for anti-HCV.

**HEPATITIS C VIRUS RNA PCR (QUANTITATIVE)****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 1 ml serum, frozen**Lab Section:** Molecular**CPT:** 87522**SRL#:** 20020**Reference Range:** See chart for interpretation. Centrifuge specimen within 6 hours of collection.



## HEPATITIS D VIRUS (HDV) RNA RT-PCR (QUALITATIVE)

**Frequency/TAT:**

**Tube:** Red top or serum separator

**Specimen Required:** 1 ml. serum, freeze

**Lab Section:** Chemistry

**CPT:** 841073

**SRL#:**

**Reference Range:**

Transfer specimen to plastic transport tube before freezing. Send to lab frozen.

## HEPATITIS DELTA ANTIBODY

**Frequency/TAT:** M-F

**Tube:** Gel

**Specimen Required:** 2 ml serum, freeze

**Lab Section:** Chemistry

**CPT:** 86692

**SRL#:** 10655

**Reference Range:** Negative

## HEPATITIS PANEL ACUTE VIRAL

**Frequency/TAT:** Daily

**Tube:** Gel

**Specimen Required:** 5 ml serum

**Lab Section:** Chemistry

**CPT:** 80074

**SRL#:** 10698

**Reference Range:** None detected.

Test Includes Hepatitis A IgM Antibody (CPT: 86709), Hepatitis B Core IgM Antibody (CPT: 86705), Hepatitis B Surface Antigen (CPT: 87340), and Hepatitis C Antibody (CPT: 86803).

## HERPES, CULTURE (See CULTURE, HERPES SIMPLEX VIRUS)

### HERPES, DFA

**Frequency/TAT:** 2 days

**Tube:** Slide

**Specimen Required:** Pre-made air-dried slide, no fixative

**Lab Section:** Microbiology

**CPT:** 87300

**SRL#:** 16164

**Reference Range:** No antigen.

Specify source on the requisition.

## HERPES DNA PCR (HERPES SIMPLEX I & II)

**Frequency/TAT:** M-F

**Tube:** Pink EDTA

**Specimen Required:** 2 ml. minimum, whole blood, refrigerated

**Lab Section:** Molecular

**CPT:** 87300

**SRL#:** 13348

**Reference Range:** Not detected.

**Method:** PCR

Cannot detect less than 100 copies per ml.

## HERPES DNA PCR, FLUIDS (HERPES SIMPLEX I & II NON-BLOOD)

**Frequency/TAT:** M-F

**Tube:** Sterile container

**Specimen Required:** CSF, urine, various fluids, refrigerated

**Lab Section:** Molecular

**CPT:** 87530

**SRL#:** 13360

**Reference Range:** Not detected.

**Method:** PCR

This assay cannot detect less than 100 copies per ml.

## HERPES SIMPLEX I & II IgG AB, EIA (SCREEN)

**Frequency/TAT:** M-F

**Tube:** Gel

**Specimen Required:** 2 ml serum, refrigerate

**Lab Section:** Serology

**CPT:** 86694 if negative, 86696 if positive

**SRL#:** 13430 if negative, 13436 if positive

**Reference Range:** < 0.9

**Method:** EIA

Appropriate CPT coding may allow for the reimbursement of the above codes two times; please verify this with your provider. If positive, Herpes Simplex II, IgG will be performed. Equivocals do not reflex.

## HERPES SIMPLEX I & II IgM AB, EIA

**Frequency/TAT:** M-F

**Tube:** Gel

**Specimen Required:** 2 ml serum, refrigerate

**Lab Section:** Serology

**CPT:** 86694

**SRL#:** 13803

**Reference Range:** ≤ 0.90

**Method:** EIA

Test does not differentiate between HSV I, HSV II or IgM AB.

## HETEROPHIL ANTIBODIES

Test no longer available. Order Mono SRL# 8080 or EBV Titers SRL# 8024 EBV-EA, #8343 EBV VCA IgG, #8298 EBV CA IgM, 8022 EBV-NA.

## HEXOSAMINIDASE, SERUM (See TAY SACHS-DISEASE, SERUM)

## HGB A1C (See HEMOGLOBIN A1C)

**HGB/HCT****Frequency/TAT:** Daily**Tube:** Lavender**Specimen Required:** 3 ml EDTA whole blood**Lab Section:** Hematology**CPT:** 85014**SRL#:** 1002**Reference Range:** See Hematology Standardized Reference Ranges.

Mix the tube by inversion after collection and refrigerate; clotted or hemolyzed specimens will be rejected. One microtainer is acceptable for capillary collection.

**HGE (See ANAPLASMA PHAGOCYTOPHILUM ANTIBODIES)****HHV (See HUMAN HERPES VIRUS)****HIAA, 5 (5-HYDROXYINDOLEACETIC ACID)****Frequency/TAT:** Sun-F**Tube:** Urine**Specimen Required:** 24-hour urine**Lab Section:** Chemistry**CPT:** 83497**SRL#:** 7630**Reference Range:** 0.0-8.0 mg/24-hour

Collect a 24-hour urine specimen, no preservative. Refrigerate during collection; send the entire specimen to the laboratory. Note: 30 ml 6N HCl or 1 g/l boric acid may be added as a preservative for other tests without harm to 5-HIAA.

**HISTAMINE****Frequency/TAT:** T, Th**Tube:** Pink**Specimen Required:** 2 ml plasma, freeze**Lab Section:** Chemistry**CPT:** 83088**SRL#:** 8448**Reference Range:**  $\leq 1.0$  ng/ml

Separate and freeze plasma as soon as possible.

**HISTONE ANTIBODY****Frequency/TAT:** Daily**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Serology**CPT:** 83516**SRL#:** 13268**Reference Range:**  $< 1$  unit/ml**Method:** EIA**HISTOPLASMA ANTIGEN (URINE, PLASMA, BODY FLUIDS)****Frequency/TAT:** M-F**Tube:** Sterile container**Specimen Required:** 10 ml urine; 1 ml minimum CSF, plasma, or bodily fluids.**Lab Section:** Serology**CPT:** 87385**SRL#:** 13412**Reference Range:**  $< 1.0$  units/ml**Method:** EIA**HISTOPLASMOSIS AB, CF****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Serology**CPT:** 86698 x 2**SRL#:** 8418**Reference Range:**  $< 1:8$ **Method:** CF

Non-fasting specimens may cause method interference.

**HISTOPLASMOSIS AB, ID****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Serology**CPT:** See below.**SRL#:** 13620**Reference Range:** Negative**Method:** ID

Test not orderable separately, order Fungal Antibody Screen, ID (CPT: 86606, 86635, 86612, 86698).

**HIT PANEL (HEPARIN INDUCED THROMBOCYTOPENIA)****Frequency/TAT:** M, W, F**Tube:** 1 tube blue 3.2% sodium citrate, 1 tube red non-gel**Specimen Required:** 1 ml citrated plasma, 2 ml serum**Lab Section:** Hematology**CPT:** 85576, 86022**SRL#:** 1316, 1277

Centrifuge the citrated specimen for 15 minutes as soon as possible after collection. Transfer the plasma to a labeled plastic tube and freeze. The patient must not be on Heparin for 24 hours prior to testing. Test includes Heparin Aggregation, Platelet Factor 4 (PF4)-ELISA Antibody and pathologist interpretation.

### HIV 1-AB, ELISA

**Frequency/TAT:** Sun-Th, 48 hour TAT

**Tube:** Gel

**Specimen Required:** 1 SST dedicated tube, do not pour off, refrigerate.

**Please note:** Testing will not be performed if a dedicated tube is not submitted.

**Lab Section:** Serology

**CPT:** 86703

**SRL#:** 8413

**Reference Range:** Negative

**Method:** EIA

Draw separate, dedicated tube for HIV and label with patient name and identification number. Patient name and identification number must be on tube. HIV 1 Western Blot will be performed if HIV 1-Ab ELISA is repeatedly reactive. Western Blot will be billed separately. Positive HIV or Western Blot reported to public health.

### HIV 1-AB, WESTERN BLOT

**Frequency/TAT:** M-F

**Tube:** Gel

**Specimen Required:** 1 SST dedicated tube, do not pour off, refrigerate. Please note: Testing may not be performed if a dedicated tube is not submitted.

**Lab Section:** Serology

**CPT:** 83889

**SRL#:** 13150

**Reference Range:** Negative

Draw separate, dedicated tube for Western Blot and label with patient name and identification number. Patient name and identification number must be on tube. The Western Blot is considered the reference procedure for confirming the presence or absence of HIV antibody. This test detects antibodies to P24, GP41, GP120/160 and several other antibodies characteristic of HIV. Separately billed when reflexed from HIV EIA. Positive HIV or Western Blot reported to public health.

### HIV 2-AB, ELISA

**Frequency/TAT:** M-F

**Tube:** Pink EDTA or Gel

**Specimen Required:** 1 dedicated tube, do not pour off, refrigerate

**Please note:** Testing will not be performed if a dedicated tube is not submitted.

**Lab Section:** Serology

**CPT:** 86702

**SRL#:** 13156

**Reference Range:** Negative

**Method:** Draw separate, dedicated tube and label with patient name and identification number. Patient name and identification number must be on tube. HIV 2 Western Blot

performed if HIV 2-Ab ELISA is repeatedly reactive. Western Blot will be billed separately.

### HIV DNA PCR

**Frequency/TAT:** M-F

**Tube:** Yellow ACD

**Specimen Required:** Whole blood, room temperature

**Lab Section:** Serology

**CPT:** 87535

**SRL#:** 13208

**Reference Range:** None detected.

**Method:** PCR

Positive HIV DNA PCR reported to public health.

### HIV GENOTYPE (GENOSURE)

**Frequency/TAT:** 10 days

**Tube:** Pink EDTA

**Specimen Required:** 4 ml plasma, separate and freeze immediately into 2 aliquots

**Lab Section:** Molecular

**CPT:** 87901

**SRL#:** 13545

HIV viral load must be greater than 1000 copies/ml for testing to be done. HIV viral load will be ordered and billed if needed for genotype.

### HIV-P24 ANTIGEN

**Frequency/TAT:** M-F

**Tube:** Gel

**Specimen Required:** 4 ml serum, refrigerate

**Lab Section:** Serology

**CPT:** 87390

**SRL#:** 13269

**Reference Range:** < 4.0 pg/ml

**Method:** EIA

### HIV PHENOTYPE

**Frequency/TAT:** 10 days

**Tube:** Pink EDTA

**Specimen Required:** 4 ml plasma, separate and freeze immediately into 2 aliquots of 2ml each

**Lab Section:** Serology

**CPT:** 87903, 87904 x 2

**SRL#:** 13586

HIV viral load must be greater than 1000 copies/ml for testing to be done. HIV viral load will be ordered and billed if needed for phenotype.

**HIV RNA VIRAL LOAD****Frequency/TAT:** M-F**Tube:** Pink EDTA**Lab Section:** Molecular**CPT:** 87536**SRL#:** 13320**Method:** RT-PCR

Separate and freeze plasma.

**HLA****Lab Section:** Immunology

HLA typing and antibody screening are performed for solid organ transplantation, bone marrow transplantation, HLA-matched blood products, and disease association/linkage studies. The appropriateness of HLA typing and antibody screening depends on several clinical factors such as WBC count, patient diagnosis, recent blood transfusion history, and current medications. Some of these factors may also influence specimen suitability for testing. Leukemia and cancer patients should be typed before treatment begins. Specimens for HLA typing should be collected more than 48 hours after last transfusion of leuko-reduced blood; if platelet products are not leuko-reduced, typing by serology can be attempted after 5-7 days; disease association/linkage can be different in different patient populations. Please contact the Transplant Immunology director, Angelo N. Arnold, Ph.D., at (757) 388-3114 or (757) 388-3868 with any questions.

**HLA ABC TYPE****Frequency/TAT:** M-F**Tube:** Yellow solution A**Specimen Required:** 20 ml adult, or 5 ml pediatric minimum, room temperature**Lab Section:** Immunology**CPT:** 86813**SRL#:** 5000

Do not centrifuge, refrigerate or freeze. The laboratory must receive the specimen within 24 hours of collection and by noon on Friday. To provide appropriate and timely studies, all HLA testing must be scheduled. Please call Client Services at (757) 388-3621 to schedule testing and courier pickup or answer any questions.

**HLA ANTIBODY SCREEN****Frequency/TAT:** M-F**Tube:** Red**Specimen Required:** 10 ml**Lab Section:** Immunology**CPT:** 86808**SRL#:** 5005

Do not centrifuge. Do not use a barrier gel tube. The laboratory must receive the specimen within 24 hours of collection and by noon on

Friday. Hemolyzed specimens are not accepted. To provide appropriate and timely studies, all HLA testing must be scheduled. Please call Client Services at (757) 388-3621 to schedule testing and courier pickup or answer any questions.

**HLA B27 AND RELATED ANTIGENS****Frequency/TAT:** M-F**Tube:** Yellow solution A or pink/lavender**Specimen Required:** 6 ml whole blood**Lab Section:** Serology**CPT:** 83890, 83893, 83896 x 6, 83898, 83912**SRL#:** 13205**Method:** PCR

Do not refrigerate or freeze. The laboratory must receive the specimen within 24 hours of collection and by noon on Friday. To provide appropriate and timely studies, all HLA testing needs to be done between M-F.

**HLA DR/DQ TYPE****Frequency/TAT:** M-F**Tube:** Yellow**Specimen Required:** 20 ml adult, 5 ml pediatric minimum**Lab Section:** Immunology**CPT:** 86817**SRL#:** 5012

Do not refrigerate or freeze. The laboratory must receive the specimen within 24 hours of collection and by noon on Friday. To provide appropriate and timely studies, all HLA testing must be scheduled. Please call Client Services at (757) 388-3621 to schedule testing and courier pickup or answer any questions.

**HME (See EHRlichia ANTIBODIES)****HOMOCYSTEINE, SERUM****Frequency/TAT:** Daily**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 83090**SRL#:** 10107**Reference Range:** 5.0-15.0 umol/L

Separate serum from cells immediately to avoid false evaluation.

**HOMOVANILLIC ACID****Frequency/TAT:** M**Tube:** Urine**Specimen Required:** 24-hour urine**Lab Section:** Chemistry**CPT:** 83150**SRL#:** 8422**Reference Range:** 0.0-9.2 mg/24-hour

Collect a 24-hour urine specimen, add 30 ml 6NHCL to the container prior to collection, and refrigerate during and after collection. Send the entire specimen to the laboratory.

**HPV HIGH RISK DNA TEST  
(HUMAN PAPILLOMA VIRUS)****Frequency/TAT:** T, Th**Tube:** Digene HPV specimen transport media, Thin-Prep (PreservCyt)**Specimen Required:** Cervical sample in Digene specimen transport media, 4 ml Thin-Prep biopsy collected in Digene specimen transport media**Lab Section:** Serology**CPT:** 87621**SRL#:** 13144**Reference Range:** Negative

**Method:** Hybrid Capture II (nucleic acid probe hybridization and chemiluminescent signal amplification) This assay is intended for patients with an ASCUS Pap smear result. This test is used for qualitative detection of Human Papilloma virus types 16, 18, 31, 33, 35, 39, 45, 51, 56, 58, and 59 in cervical specimens. This test does not differentiate between HPV high risk types. A negative result does not rule out the possibility of an HPV infection since very low levels of infection or sampling errors may cause a false negative result.

**HPV LOW RISK AND HIGH RISK DNA TEST (HUMAN PAPILLOMA VIRUS)****Frequency/TAT:** T, Th**Tube:** Digene HPV specimen transport media, Thin-Prep (PreservCyt)**Specimen Required:** Cervical sample in Digene specimen transport media, 4 ml Thin-Prep biopsy collected in Digene specimen transport media**Lab Section:** Serology**CPT:** 87621 x 2**SRL#:** 13145**Reference Range:**

HPV Low Risk	Negative
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HPV High Risk	Negative
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**Method:** Hybrid Capture II (nucleic acid probe hybridization and chemiluminescent signal amplification). This HPV test distinguishes between two HPV DNA groups: Low Risk HPV types 6, 11, 42, 43, and 44 and High Risk HPV

types 16, 18, 31, 33, 35, 39, 45, 51, 52, 56, 58, 59, 68. A negative result does not rule out the possibility of an HPV infection since very low levels of infection or sampling errors may cause a false negative result.

**HPV BY PCR****Frequency/TAT:** M-F**Tube:** Crushproof container**Specimen Required:** Tissue biopsy (formalin fixed, paraffin-embedded)**Lab Section:** Serology**CPT:** 86721**SRL#:** 8562**Reference Range:** Negative**Method:** PCR

Detection of HPV in tissue specimen; HPV typing for (6,11), (16), (18, 45) and (31, 33, 35, 39)

**HTLV 1 AND 2 AB, ELISA****Frequency/TAT:** Sun-Th**Tube:** Gel or EDTA plasma**Specimen Required:** 2.5 ml whole blood, refrigerate**Lab Section:** Serology**CPT:** 86790**SRL#:** 8580**Reference Range:** Negative**Method:** EIA

Detects antibodies to the Retrovirus, which is a cause of aggressive adult T-cell leukemia (ATL) and has been associated with chronic neurological disease.

**HU AUTO ANTIBODY (ANTI-NEURONAL NUCLEAR ANTIBODY)****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 1 ml serum**Lab Section:** Serology**CPT:** 86255**SRL#:** 13113**Reference Range:** Negative

Includes anti-Hv and anti-Ri autoantibodies.

**HUMAN HERPES VIRUS-6 DNA PCR****Frequency/TAT:** M-F**Tube:** Pink EDTA**Specimen Required:** 2 ml minimum whole blood, refrigerate**Lab Section:** Serology**CPT:** 87533**SRL#:** 13384**Reference Range:** Not detected**Method:** PCR

This assay cannot detect less than 100 copies per 100,000 cells.



**HUMAN HERPES VIRUS-6 DNA PCR NON BLOOD (FLUIDS)****Frequency/TAT:** M-F**Tube:** Sterile container**Specimen Required:** 1 ml minimum CSF, urine, various fluids, refrigerate**Lab Section:** Serology**CPT:** 87533**SRL#:** 13390**Reference Range:** Not detected**Method:** PCR

This assay cannot detect less than 100 copies per 100,000 cells.

**HUMAN HERPES VIRUS-6 IgG AND IgM ANTIBODIES (HHV-6 ABS)****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Serology**CPT:** 86790 x 2**SRL#:** Miscellaneous referral testing**Reference Range:**

Herpes Virus 6 IgG AB &lt; 1:10

Herpes Virus 6 IgM AB &lt; 1:20

**Method:** IFA

Human Herpes Virus 6 (HHV-6) infects peripheral blood leukocytes and is considered the agent of roseola. The normal prevalence of HHV-6 antibody is high, nearly 100% of the population will demonstrate antibody at midlife with titers declining in old age. In order to demonstrate primary infection, it is necessary to detect a significant change in titer.

**HUMAN HERPES VIRUS-7 IgG AND IgM ANTIBODY PANEL****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Serology**CPT:** 86790 x 2**SRL#:** 13764**Reference Range:**

Herpes Virus 7 IgG AB &lt; 1:160

Herpes Virus 7 IgM AB &lt; 1:20

**Method:** IFA

Human Herpes Virus 7 (HHV-7), a close relative of HHV-6, is found in greater than 85% of the population, with transmission occurring in early childhood. Like HHV-6, HHV-7 is a cause of exanthum subitum (roseola infantum). HHV-7 titers  $\geq$  1:160 are suggestive of recent HHV-7 infection. Detection of HHV-7 specific IgM is also indicative of recent infection.

**HUMAN PAPILLOMA VIRUS (See HPV) HYDROXYANDROSTERONE, 11****Frequency/TAT:** M, W**Tube:** Urine**Lab Section:** Chemistry**CPT:** See below.**SRL#:** See below.

This test is not orderable, order 17 Ketosteroids, Fractionated (SRL#: 11995, CPT: 83593).

**HYDROXYCORTICOSTEROIDS, 17****Frequency/TAT:** M-F**Tube:** Urine**Specimen Required:** 24-hour urine**Lab Section:** Chemistry**CPT:** 83491**SRL#:** 7610**Reference Range:**

Male 3-10 mg/24-hour

Female 2-8 mg/24-hour

Collect a 24-hour urine specimen; add 1 gram of boric acid per liter to the container prior to collection. Refrigerate during collection; send the entire specimen to the laboratory; 30 ml 6 N HCl may also be used as a preservative.

**HYDROXYETIOCHOLANOLONE, 11****Frequency/TAT:** M, W**Tube:** Urine**Lab Section:** Chemistry**CPT:** See below.**SRL#:** See below.

This test is not orderable, order Group 17 Ketosteroids, Fractionated (SRL#: 11995, CPT: 83593).

**HYDROXYPROGESTERONE, 17****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerated**Lab Section:** Chemistry**CPT:** 83498**SRL#:** 8447**Reference Range:**

Male 5-160 ng/dl

Female:

Follicular 30-100 ng/dl

Luteal 20-290 ng/dl

Pregnant 40-1540 ng/dl

(3rd trimester)

Lavender (EDTA) or Green (Heparin) tubes are acceptable.



**HYDROXYPROLINE, URINE TOTAL****Frequency/TAT:** M-F**Tube:** Urine**Lab Section:** Chemistry**CPT:** 83505**SRL#:** 8423**Reference Range:** 7-43 mg/24-hour

Collect a 24-hour urine specimen, add 30 ml 6 N HCl to the container prior to collection, and refrigerate during collection. Send the entire specimen to the laboratory.

**HYDROXYTRYPTAMINE, 5 (SEROTONIN, BLOOD)****Frequency/TAT:** M, W, F**Tube:** Pink**Specimen Required:** 1 full tube whole blood**Lab Section:** Chemistry**CPT:** 84260**SRL#:** 8644**Reference Range:** 11-204 ng/ml

Collect 1 tube (EDTA), mix well by inverting 6 times (do not shake), pour the entire sample into a labeled plastic vial containing 75 mg ascorbic acid and freeze immediately.

**HYPER PNEU ASPERGILL (HYPERSENSITIVITY PNEUMONITIS ASPERGILLUS)****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Serology**CPT:** 86606 x 6**SRL#:** 8424**Reference Range:** None detected.**Method:** ID

Detects antibodies to Aspergillus Pullulans, Aspergillus Flavus, Aspergillus Fumigatus #1, Aspergillus Fumigatus #2, Aspergillus Fumigatus #6, Aspergillus Fumigatus #3, Aspergillus Niger, and Aspergillus Glaucus. Appropriate CPT coding may allow for the reimbursement of the above codes for multiple times; please verify this with your provider. Aspergillus Nidulans no longer included in panel.

**HYPER PNEU STANDARD (HYPERSENSITIVITY PNEUMONITIS STANDARD)****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Serology**CPT:** 86606 x 4, 86753, 86602 x 3**SRL#:** 8441**Reference Range:** None detected.**Method:** ID

Detects antibodies to Micropol. Faeni, Thermoactinomyces Candidus, Saccharomonospora Viridis, Thermoa. Vulgaris

#1, Aspergillus Flavus, Aspergillus Fumigatus #1, Aspergillus Fumigatus #2, Aspergillus Fumigatus #6, Aspergillus Fumigatus #3, Aspergillus Niger and Aspergillus Pullulans. Appropriate CPT coding may allow for the reimbursement of the above codes for multiple times; please verify this with your provider.

**HYPER PNEU THERMOPHILE (HYPERSENSITIVITY PNEUMONITIS THERMOPHILE)****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Serology**CPT:** 86753, 86602 x 5, 86606 x 5**SRL#:** 13779**Reference Range:** None detected.**Method:** ID

Detects antibodies to Micropol. Faeni, Thermoactinomyces Candidus, Saccharomonospora Viridis, Thermoa. Vulgaris #1, Thermoactinomyces Vulgaris, A. Pullulans, Aspergillus Flavus, Aspergillus Fumigatus #1, Aspergillus Fumigatus #2, Aspergillus Fumigatus #6, Aspergillus Fumigatus #3. Appropriate CPT coding may allow for the reimbursement of the above codes for multiple times; please verify this with your provider.

**IBUPROFEN (MOTRIN)****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 4 ml serum, room temperature**Lab Section:** Chemistry**CPT:** 82491**SRL#:** 6905**Reference Range:** 10-50 ug/ml**Toxic Value:** > 100 ug/ml**IFE (See IMMUNOFIXATION SERUM)**

**IgA****Frequency/TAT:** Daily**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 82784**SRL#:** 7602**Reference Range:**

< 1 year	1-53 mg/dl
1-2 years	14-106 mg/dl
2-3 years	14-123 mg/dl
3-4 years	22-159 mg/dl
4-6 years	25-154 mg/dl
6-9 years	33-202 mg/dl
9-11 years	45-236 mg/dl
11 years +	70-400 mg/dl

Included in Immunoglobulins (SRL# 7600)

**IgD****Frequency/TAT:** T, F**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 82784**SRL#:** 8455**Reference Range:** 0-14 mg/dl**IgE****Frequency/TAT:** M-Sat**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 82785**SRL#:** 8456**Reference Range:** 0-18 IU/ml**IgG****Frequency/TAT:** Daily**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 82784**SRL#:** 7601**Reference Range:**

Less than 1 yr.	251-906 mg/dl
1-2 years	345-1213 mg/dl
2-3 years	424-1051 mg/dl
3-4 years	441-1135 mg/dl
4-6 years	463-1236 mg/dl
6-9 years	633-1280 mg/dl
9-11 years	608-1570 mg/dl
11 years +	700-1600 mg/dl

Included in Immunoglobulins (SRL# 7600)

**IgG CSF****Frequency/TAT:** M, W**Tube:** CSF**Specimen Required:** 1 ml, refrigerate**Lab Section:** Chemistry**CPT:** 82784**SRL#:** 7605**Reference Range:** 0.0 - 0.7 mg/dl**IgG SUBCLASSES****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Serology**CPT:** 82784, 82787 x 4**SRL#:** 13405

Includes subclasses 1, 2, 3, 4 and IgG Quantitation.

**IgM****Frequency/TAT:** Daily**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 82784**SRL#:** 7603**Reference Range:**

Less than 1 yr.	20-87 mg/dl
1-2 years	43-173 mg/dl
2-3 years	48-168 mg/dl
3-4 years	47-200 mg/dl
4-6 years	43-196 mg/dl
6-9 years	48-207 mg/dl
9-11 years	52-242 mg/dl
11 years +	56-352 mg/dl

Included in Immunoglobulins (SRL test # 7600)

**IMIPRAMINE (TOFRANIL)****Frequency/TAT:** M-Sat**Tube:** Red**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 80174**SRL#:** 7820**Reference Range:**

150-250 ng/ml

**Toxic Value:** > 500 ng/ml

Do not use serum separator (barrier gel) tube.

Test includes Desipramine.

**IMMUNE COMPLEX PANEL (CIQ AND RAJI CELL)****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 4 ml serum, separated into 2 - 2ml aliquots, freeze**Lab Section:** Serology**CPT:** 86332 x2**SRL#:** 8495**Reference Range:** See report.**Method:** EIA

Freeze as soon as possible into 2 separate tubes. Dry ice should be used to transport the specimen. Panel includes Raji Cell and C1Q binding assays. Accurate CPT coding may allow for the reimbursement of the above code two times; please verify this with your provider.

**IMMUNOFIXATION SERUM (IFE) WITH INTERPRETATION****Frequency/TAT:** Daily**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 86334**SRL#:** 10041**Reference Range:** See report for interpretation.

Test Includes typing of monoclonal proteins for heavy and light chains and protein electrophoresis. Hemolysis and lipemia interfere with this test. Normal heavy and light chains appear as diffuse bands within the gel; monoclonal proteins appear as distinct bands. A separate professional fee for interpretation will be charged. Can also be performed on random urines (minimum sample 50 ml).

**IMMUNOFIXATION, URINE (BENCE JONES PROTEIN) WITH INTERPRETATION****Frequency/TAT:** Daily**Tube:** Urine**Specimen Required:** 100 ml of a 24-hour urine, refrigerate**Lab Section:** Chemistry**CPT:** 86335**SRL#:** 10042**Reference Range:** See report for interpretation.

Collect 24-hour urine without preservative. Test includes typing of monoclonal proteins for heavy and light chains and protein electrophoresis; monoclonal bands appear as distinct bands. There are no normal values for urine protein fractions; normally a small amount of albumin is present. A separate professional fee for interpretation will be charged. Test can also be performed on random urines.

**IMMUNOGLOBULINS****Frequency/TAT:** Daily**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 82784 x 3**SRL#:** 7600**Reference Range:**

IgA 70-400 mg/dl

IgM 56-352 mg/dl

IgG 700-1600 mg/dl

See individual tests for pediatric values.

**INDERAL (PROPRANOLOL, SERUM)****Frequency/TAT:** 10-14 days**Tube:** Red**Specimen Required:** 3 ml serum, room temperature**Lab Section:** Chemistry**CPT:** 82542**SRL#:** 8607**Reference Range:** 40-100 ng/ml

Do not collect in a gel barrier tube. Protect from light, wrap in foil.

**INDIA INK PREPARATION****Frequency/TAT:** Daily**Tube:** Sterile container**Specimen Required:** CSF**Lab Section:** Microbiology**CPT:** 87210**SRL#:** 2903**Reference Range:** None seen.**INDIRECT ANTIGLOBULIN TEST (IAT), INDIRECT COOMBS OR ANTIBODY SCREEN****Frequency/TAT:** Daily**Tube:** Pink**Specimen Required:** 6 ml tube**Lab Section:** Transfusion Services**CPT:** 86850**SRL#:** 4004 (for inpatient and outpatient), #14021 (for physician offices/nursing homes).**Reference Range:** Negative

Demonstrates in-vitro reactions between rbcs and agglutinating antibodies. If the screen is positive, antibody identification will automatically be performed and billed. Requests for follow-up titers will be faxed when appropriate. Physician is requested to provide transfusion and pregnancy histories where applicable.

**INFLUENZA A + B ANTIBODIES IgG, IgM, IgA, EIA****Frequency/TAT:** T**Tube:** Gel**Specimen Required:** 1 ml serum refrigerated, ambient or frozen**Lab Section:** Serology**CPT:** 86710 x 6**SRL#:** Miscellaneous referral testing**Reference Range:** < 0.81 index**INFLUENZA ABS, CF****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Serology**CPT:** 86710 x 2**SRL#:** 8466**Reference Range:** < 1:8**Method:** CF

Detects antibodies to Influenza A and B. A fourfold or greater rise in titer between acute and convalescent specimens is of greater diagnostic value. Accurate CPT coding may allow for the reimbursement of the above code two times; please verify with your provider.

**INFLUENZA CULTURE (See CULTURE, INFLUENZA A+B)****INFLUENZA A&B, DIRECT ANTIGEN RAPID SCREEN****Frequency/TAT:** Daily**Tube:** Sterile container**Specimen Required:** Nasopharyngeal swab or nasal aspirate**Lab Section:** Microbiology**CPT:** 87400**SRL#:** 16293**Reference Range:** Negative

Throat swab acceptable. Dry rayon or Dacron polyester swabs only. Do not use calcium alginate nasopharyngeal swabs. See specimen collection and procedures information for Microbiology. Detects antigens to Influenza A&B.

**INHIBITOR TITER (See FACTOR INHIBITOR TITER)****INSULIN ANTIBODIES****Frequency/TAT:** W, F**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Serology**CPT:** 86337**SRL#:** 8470**Reference Range:** < 1 ku/ml**Method:** RIA**INSULIN, SERUM****Frequency/TAT:** M-Sat**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 83525**SRL#:** 7165**Reference Range:** 6-27 uIU/ml

Fasting specimen is required.

**INTRINSIC FACTOR ANTIBODY****Frequency/TAT:** T, Th**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Serology**CPT:** 86340**SRL#:** 8473**Reference Range:** Negative**Method:** RIA

Detection of Intrinsic Factor Ab is suggestive of Pernicious Anemia. Anti-Parietal Cell Ab and Vitamin B12 are also useful in the evaluation of Pernicious Anemia.

**IRON****Frequency/TAT:** Daily**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 83540**SRL#:** 6875**Reference Range:**

0 minutes-6 mos.	20-157 ug/dl
6 months-2 yrs.	16-120 ug/dl
2-6 yrs.	20-124 ug/dl
6-12 yrs.	23-123 ug/dl
12-15 yrs.	50-160 ug/dl
Male 15 yrs. - 150 yrs	45-160 ug/dl
Female 15 yrs. -150 yrs.	30-160 ug/dl

Patient should be fasting. Hemolysis interferes with test. Included in Iron Profile and Iron Saturation. ABN may be required.

**IRON PROFILE****Frequency/TAT:** Daily**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 83540, 83550**SRL#:** 10682**Reference Range:**

Male	45-160 ug/dl
Female	30-160 ug/dl
UIBC	110 – 370 ug/dl
TIBC	250 – 400 ug/dl

Test includes Iron, UIBC (unsaturated iron binding capacity), TIBC (total iron binding capacity, as a calculated value). Patient should be fasting; hemolysis interferes with the tests.

## IRON SATURATION

**Frequency/TAT:** Daily

**Tube:** Gel

**Specimen Required:** 1 ml serum, refrigerate

**CPT:** 83540, 83550

**SRL#:** 6877

**Reference Range:**

Male	45-160 ug/dl
Female	30-160 ug/dl
UIBC	110-370 ug/dl
TIBC	250-400 ug/dl
Saturation	20-50%

Test includes Iron, UIBC (unsaturated iron binding capacity), TIBC (total iron binding capacity, as a calculated value and percent iron saturation.) Patient should be fasting; hemolysis interferes with the tests. ABN may be required.

leukoencephalopathy (PML), a severe demyelinating disease of the central nervous system.

## JO-1 ANTIBODY

**Frequency/TAT:** M-F

**Tube:** Gel

**Specimen Required:** 2 ml serum, refrigerate

**Lab Section:** Serology

**CPT:** 86235

**SRL#:** 8107

**Reference Range:** < 20 units

**Method:** EIA

Anti JO-1 is the most frequently occurring antibody on polymyositis with a frequency of 30%. Useful with Pm1/Scl antibody for diagnosis.

## K

## ISLET CELL ANTIBODY

**Frequency/TAT:** Weekly

**Tube:** Gel

**Specimen Required:** 2 ml serum, refrigerate

**Lab Section:** Serology

**CPT:** 86341

**SRL#:** 8790

**Reference Range:** < 1:4

**Method:** IFA

## KETOANDROSTERONE, 11

**Frequency/TAT:** M, W

**Tube:** Urine

**Lab Section:** Chemistry

**CPT:** See below.

**SRL#:** See below.

This test is not orderable, order 17 Ketosteroids, Fractionated (SRL#: 11995, CPT: 83593).

## KETOETIOCHOLANOLONE, 11

**Frequency/TAT:** M, W

**Tube:** Urine

**Lab Section:** Chemistry

**CPT:** See below.

**SRL#:** See below.

This test is not orderable, order 17 Ketosteroids, Fractionated (SRL#: 11995, CPT: 83593).

## ISONIAZID (INH)

**Frequency/TAT:** 10-14 days

**Tube:** Gel

**Specimen Required:** 5 ml serum, freeze

**Lab Section:** Chemistry

**CPT:** 82491

**SRL#:** 8475

**Therapeutic Range:** 1-7 ug/ml in treatment of Tuberculosis

**Toxic Value:**  $\geq 20$  ug/ml

Freeze as soon as possible; wrap specimen in foil to protect from light.

## J

## JC VIRUS (JAMESTOWN CANYON VIRUS) DNA DETECTOR

**Frequency/TAT:** T, Th

**Tube:** Pink, lavender, or yellow ACD, CSF (sterile)

**Specimen Required:** 5 ml whole blood, refrigerate; CSF 2 ml, freeze

**Lab Section:** Miscellaneous Referral Testing

**CPT:** 87799

**Reference Range:** Not detected.

**Method:** PCR

Specimens must be shipped to referring laboratory within 24 hours. JC Virus is the causative agent for progressive multifocal

**KETOSTEROIDS FRACTIONATED, 17 (URINE)****Frequency/TAT:** M, W**Tube:** Urine**Specimen Required:** 24-hour urine**Lab Section:** Chemistry**CPT:** 83593**SRL#:** 11995**Reference Range:**

Androsterone 55-1589 ug/24hr

Etiocholanolone 151-3198 ug/24hr

Pregnanetriol 59-1391 ug/24hr

11-Ketoandrosterone 4.0-55 ug/24hr

11-Ketoetiocholanolone 51-1016 ug/24hr

11-Hydroxyandrosterone 66-1032 ug/24hr

11-Hydroxyetiocholanolone 17-1006 ug/24hr

Collect urine for 24 hours; add one-gram boric acid per liter to the container before collection. Refrigerate during collection period. Send the entire specimen to the laboratory. The following tests comprise the series of analytes that are quantitated on a ketosteroid fractionation. None of the tests are available as individually orderable tests. Reference range for pediatric patients is listed on the report.

**KETOSTEROIDS URINE TOTAL, 17****Frequency/TAT:** M-F**Tube:** Urine**Lab Section:** Chemistry**CPT:** 83586**SRL#:** 7620**Reference Range:**

Male &gt; 16 yrs. 10-25 mg/24-hour

Female &gt; 16 yrs. 6-14 mg/24-hour

Collect a 24-hour urine specimen; add 1 gram of boric acid per liter to the container prior to collection. Refrigerate during collection. Send the entire specimen to the laboratory.

**KLEIHAUER-BETKE****Frequency/TAT:** Daily**Tube:** Lavender**Specimen Required:** 3 ml EDTA whole blood, refrigerate**Lab Section:** Hematology**CPT:** 85460**SRL#:** 1444**Reference Range:** < 1%

Mix the tube by inversion after collection and refrigerate. Clotted or hemolyzed specimen will be rejected.

**KLONOPIN (See CLONAZEPAM)****KOH PREPARATION****Frequency/TAT:** Daily**Lab Section:** Microbiology**CPT:** 87210**SRL#:** 2902**Reference Range:** Negative

Submit skin, nail scrapings, hair, CSF, body fluid, sputum or bronchial washings in a sterile container. Use a culture swab for oral specimens.

**L****LACTATE DEHYDROGENASE (LDH)****Frequency/TAT:** Daily**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 83615**SRL#:** 6612

**Reference Range:** > 2 years 98-192 U/L  
Hemolysis interferes with the test.

**LACTATE DEHYDROGENASE, FLUID****Frequency/TAT:** Daily**Tube:** Fluid**Specimen Required:** 1 ml, refrigerate**Lab Section:** Chemistry**CPT:** 83615**SRL#:** 6882

**Reference Range:** There are no established normal values for fluids.

**Units:** U/L

Specify the source of the fluid.

**LACTIC ACID****Frequency/TAT:** Daily/STAT**Tube:** Gray, on ice**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 83605**SRL#:** 6250**Reference Range:** 0.5-2.2 mmol/L

Centrifuge in refrigerated unit. Do not collect with tourniquet. Send to laboratory immediately on ice.



**LACTOSE TOLERANCE****Frequency/TAT:** Daily**Tube:** Gel**Specimen Required:** 1 ml serum each specimen**Lab Section:** Chemistry**CPT:** 82951**SRL#:** 6880**Reference Range:** Increase of 20 mg/dl over the fasting values should occur between 15-90 minutes. Test includes fasting, 15, 30, 60, 90, and 120 minutes glucose determinations. One gel tube required for each time period; the time of each collection must be noted on the tube.**LASA-P (See LIPID ASSOCIATED SIALIC ACID)****LATEX ALLERGY (See ALLERGY LATEX SPECIFIC)****LATS (LONG ACTING THYROID STIMULATOR)  
(See THYROID RECEPTOR ANTIBODY)****LCM VIRUS ANTIBODIES****(LYMPHOYTIC CHORIOMENINGITIS)****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Serology**CPT:** 86727 x 2**SRL#:** 8522**Reference Range:**

IgG &lt; 1:16

IgM &lt; 1:20

**Method:** IFA**LDH ISOENZYMES****Frequency/TAT:** Daily**Tube:** Gel**Specimen Required:** 1 ml serum, room temperature**Lab Section:** Chemistry**CPT:** 83625**SRL#:** 7360**Reference Range:**

Fraction 1 16-28%

Fraction 2 29-37%

Fraction 3 17-23%

Fraction 4 9-15%

Fraction 5 8-20%

Total LD 100-250 U/L

Hemolysis interferes with tests.

**LEAD, BLOOD****Frequency/TAT:** M-F**Tube:** Lavender EDTA**Specimen Required:** 1 full tube or 1 EDTA microtainer (minimum); whole blood, room temperature**Lab Section:** Chemistry**CPT:** 83655**SRL#:** 8511**Reference Range:**

0-15 yrs 0-9.9 ug/dl Critical: &gt; 10.0 ug/dl

15 yrs+ 0-24.9 ug/dl Critical: &gt; 24.9 ug/dl

OSHA Lead Standard: 40. Exposed: BEI

(sampling time is not critical) 30. BEI (Biological Exposure Indices) based on 1993-94

recommendations of the American Conference of Governmental Industrial Hygienists (ACGIH).

Do not centrifuge.

**LEAD, SCREEN PANEL****Frequency/TAT:** M-F**Tube:** Royal Blue (Sodium Heparin)**Specimen Required:** 1 full tube, room temperature**Lab Section:** Chemistry**CPT:** 84202 x 2, 83655**SRL#:** 8263

Do not centrifuge. Pink tubes acceptable. Test includes Zinc Protoporphyrin (CPT: 84202), Blood Lead (CPT: 83655), RBC Protoporphyrin (CPT: 84202).

**LEAD, URINE****Frequency/TAT:** M-F**Tube:** Urine**Lab Section:** Chemistry**CPT:** 83655**SRL#:** 8503**Reference Range:** 0-80 uG/24-hour

Collect a 24-hour urine specimen, no preservative. Refrigerate during collection. Send the entire specimen to the laboratory. Exposed: BEI (sampling time is not critical) 150 UG/G Creatinine. BEI (Biological Exposure Indices) based on 1993-94 recommendations of the American Conference of Governmental Industrial Hygienists (ACGIH).

**LEGIONELLA ANTIGEN, URINE****Frequency/TAT:** M-F**Tube:** Sterile urine container**Specimen Required:** 5 ml urine, refrigerate**Lab Section:** Serology**CPT:** 87449**SRL#:** 13246**Reference Range:** Negative

Positive results are reported to public health.

## LEGIONELLA CULTURE (SEE CULTURE, LEGIONELLA)

### LEGIONELLA DFA

**Frequency/TAT:** 3 days  
**Tube:** Sterile container or two slides, no fixative  
**Specimen Required:** 1 ml pleural fluid, lung biopsy, transtracheal aspirate, bronchial washing, sputum  
**Lab Section:** Microbiology  
**CPT:** 87278  
**SRL#:** 2844  
**Reference Range:** None seen.

### LEGIONELLA IgM ANTIBODIES

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 1 ml serum  
**Lab Section:** Serology  
**CPT:** 86713 x 3  
**SRL#:** 13175  
**Reference Range:**  
 Legionella Pneumophila IgG (serogroup 1) AB < 1:16  
 Legionella Pneumophila IgG (serogroups 2-6, 8) AB < 1:16  
 Legionella Species (non-pneumophila) IgG AB < 1:64

### LEGIONELLA TOTAL ANTIBODIES

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 1 ml serum, refrigerate  
**Lab Section:** Serology  
**CPT:** 86713 x 3  
**SRL#:** 13134  
**Reference Range:**  
 Legionella Pneumophila IgM (serogroup 1) AB < 1:16  
 Legionella Pneumophila IgM (serogroup 2-6, 8) AB < 1:16  
 Legionella Species (non-pneumophila) AB < 1:256  
**Method:** IFA

## LEISHMANIASIS ANTIBODY

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 2 ml serum, refrigerate  
**Lab Section:** Serology  
**CPT:** 86717 x 4  
**SRL#:** 8505  
**Reference Range:**  
 IgG < 1:16  
 IgM < 1:20  
**Method:** IFA  
 Test includes IgG and IgM antibodies to L. Mexicana, L. Tropicalis, L. Braziliensis, L. Donovi.

## LEPTOSPIRA ANTIBODY

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 2 ml serum, refrigerate  
**Lab Section:** Serology  
**CPT:** 86720  
**SRL#:** 13270  
**Reference Range:** < 1:50  
**Method:** IHA

## LEUCINE AMINO PEPTIDASE (LAP)

**Frequency/TAT:** 10-14 days  
**Tube:** Gel  
**Specimen Required:** 1 ml serum, freeze  
**Lab Section:** Chemistry  
**CPT:** 83670  
**SRL#:** 6832  
**Reference Range:**  
 Male 1.1-3.4 U/mL  
 Female 1.2-3.0 U/mL

## LEUKOCYTE ALKALINE PHOSPHATASE (LAPA)

**Frequency/TAT:** M-F  
**Tube:** Green  
**Specimen Required:** 1 ml Heparinized whole blood. Protect from light.  
**Lab Section:** Hematology  
**CPT:** 85540  
**SRL#:** 1470  
**Reference Range:** 40-130  
 The test must be scheduled in advance with Hematology, call Client Services (757) 388-3621.

## LGV ANTIBODY (See CHLAMYDIA DIFFERENTIATION PANEL)

## LIBRIUM (See CHLORDIAZEPOXIDE)

## LIDOCAINE (XYLOCAINE)

**Frequency/TAT:** Daily  
**Tube:** Gel  
**Specimen Required:** 1 ml serum, refrigerate  
**Lab Section:** Chemistry  
**CPT:** 80176  
**SRL#:** 7940  
**Reference Range:** 1.5-5.0 ug/ml  
**Toxic Value:** > 6 ug/ml  
 Centrifuge and separate within 1 hour of collection.

## LIPID ASSOCIATED SIALIC ACID (LASA-P)

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 1 ml serum, refrigerate  
**Lab Section:** Chemistry  
**CPT:** 84275  
**SRL#:** 7022  
**Reference Range:** 0-20 mg/dl  
 Lavender (EDTA) plasma is acceptable. In order to receive more clinically useful serial results, submit the same specimen type each time this procedure is ordered.

## LIPID, PANEL COMPLETE

**Frequency/TAT:** Daily  
**Tube:** Gel  
**Specimen Required:** 1 ml serum, refrigerate  
**Lab Section:** Chemistry  
**CPT:** 80061  
**SRL#:** 11001  
**Reference Range:** See report.  
 Test includes cholesterol, HDL cholesterol, and triglycerides. If triglyceride is > 250, a direct LDL will be performed and separately billed. See individual tests for normal range. Patient must be fasting. If not, then Lipid Panel Initial performed. ABN may be required.

## LIPID, PANEL INITIAL

**Frequency/TAT:** Daily  
**Tube:** Gel  
**Specimen Required:** 1 ml serum, refrigerate  
**Lab Section:** Chemistry  
**CPT:** 82465, 83718  
**SRL#:** 11000  
**Reference Range:** See report.  
 Test includes cholesterol and HDL cholesterol. Patient should be fasting. Hemolysis and Bilirubin interfere with test. ABN may be required.

## LIPIDS, TOTAL

**Frequency/TAT:** M, T, Th, F  
**Tube:** Red  
**Specimen Required:** 2 ml serum, refrigerate  
**Lab Section:** Chemistry  
**CPT:** 84311  
**SRL#:** 6888  
**Reference Range:** 250-850 mg/dl  
 Patient should be fasting.

## LIPOPROFILE, VAP

**Frequency/TAT:** 3 days  
**Tube:** SST  
**Specimen Required:** Serum  
**Lab Section:** Chemistry  
**CPT:** 83701, 84311  
**SRL#:** 11973  
**Reference Range:** See report.  
 Fasting specimen is recommended. Centrifuge and separate plasma into a plastic tube. This profile includes a direct measurement of total cholesterol, LDL-C, HDL-C, VLDL-C, Lp(a) and Triglycerides.

## LIPOPROFILE, NMR

**Frequency/TAT:** 3 days  
**Tube:** Pink or Special Liposcience Serum tube  
**Specimen Required:** Plasma or one full Liposcience serum tube  
**Lab Section:** Chemistry  
**CPT:** 83704  
**SRL#:** 6631  
**Reference Range:** See report.  
 Fasting specimen is recommended. Centrifuge and separate plasma into a plastic tube. (If the Liposcience tube is used do not centrifuge or separate). This profile contains cholesterol, LDL, HDL, Triglycerides, and LDL and HDL particle size and large ULDL.

## LISTERIA ANTIBODIES, CF

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 1 ml serum  
**Lab Section:** Serology  
**CPT:** 86723  
**SRL#:** 8523  
**Reference Range:** < 1:8  
**Method:** Complement fixation

**LITHIUM**

**Frequency/TAT:** Daily  
**Tube:** Gel  
**Specimen Required:** 1 ml serum, refrigerate  
**Lab Section:** Chemistry  
**CPT:** 80178  
**SRL#:** 6889  
**Reference Range:** 0.5-1.5 mmol/L  
**Toxic Value:** > 2 mmol/L  
 Centrifuge and separate within 1 hour of collection. Samples collected in green lithium heparin collection tubes will be rejected.

**LKM ANTIBODIES  
 (LIVER KIDNEY MICROSOMAL ABS)**

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 1 ml serum  
**Lab Section:** Serology  
**CPT:** 86376  
**SRL#:** 13466  
**Reference Range:** < 1:20

**LUNG PROFILE**

**Frequency/TAT:** Su-F  
**Tube:** Sterile plastic tube  
**Specimen Required:** 10 ml amniotic fluid  
**Lab Section:** Chemistry  
**CPT:** 83661  
**SRL#:** 8525  
**Reference Range:**

	<u>L/S Ratio</u>	<u>PG</u>
Mature	> 2.0 PG present	Present
Borderline	1.5-1.9 PG absent	Absent
Immature	< 1.5 PG absent	Absent

Freeze and wrap the specimen in foil to protect it from light. Transport to the laboratory as soon as possible. Test includes L/S ratio and phosphatidyl glycerol (PG).

**LUPUS ANTICOAGULANT (See DILUTE RUSSELL  
 VIPER VENOM SCREEN)**

**LUTEINIZING HORMONE, SERUM**

**Frequency/TAT:** Daily  
**Tube:** Gel  
**Specimen Required:** 2 ml serum, refrigerate  
**Lab Section:** Chemistry  
**CPT:** 83002  
**SRL#:** 7175  
**Reference Range:**

Male	20-70 years	1.5-9.3 mIU/ml
	> 70 years	3.1-34.6 mIU/ml
Female	Follicular	1.9-12.5 mIU/ml
	Mid-cycle	8.7-76.3 mIU/ml
	Luteal	0.5-16.9 mIU/ml
	Pregnant	0.1-1.5 mIU/ml
	Contraceptives	0.7-5.6 mIU/ml
	Postmenopausal	15.9-54.0 mIU/ml

**LYME ANTIBODY IgM**

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 2 ml serum, refrigerate  
**Lab Section:** Serology  
**CPT:** 86618  
**SRL#:** 8128  
**Reference Range:** < 0.9 EU  
**Method:** EIA

**LYME DISEASE IgG/IgM ABS, ELISA**

**Frequency/TAT:** W, F  
**Tube:** Gel, CSF  
**Specimen Required:** 2 ml serum, 1 ml CSF, refrigerate  
**Lab Section:** Serology  
**CPT:** 86618  
**SRL#:** 13075 serum, 13076 fluid  
**Reference Range:** < 0.90, no detectable antibody  
**Method:** EIA  
 Test does not differentiate between IgG and IgM antibodies. All positives or equivocal results will be sent for Lyme by Western Blot. Please note that as with any serological test, a negative result does not preclude the presence of disease, especially in patients who have been treated. If a negative result is inconsistent with patient history or symptoms, consider repeating the test at monthly intervals for up to three months.

**LYME DISEASE IgG AND IgM ANTIBODY PANEL BY  
 WESTERN BLOT**

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 1 ml serum, refrigerate  
**Lab Section:** Serology  
**CPT:** 86617 x 2  
**SRL#:** 13537  
**Reference Range:**  
 Lyme IgG: Antibody not detected.  
 Lyme IgM: Antibody not detected.  
**Method:** Western Blot  
 The Western Blot detection of antibody to *Borrelia burgdorferi* antigens is intended for use as an ancillary test for serologic diagnosis of Lyme disease. It is especially useful for the evaluation of specimens yielding questionable results by IFA and/or ELISA. The early IgM and IgG response to *B. burgdorferi* is usually limited to the 41kD flagellar protein. With time IgG antibodies are detected against numerous antigenic determinants of the spirochete. The criteria for a positive IgG Western Blot requires the presence of antibody to at least five of ten specific *Borrelia* proteins, criteria for positive IgM requires the presence of antibody to two of three specific proteins.

## LYME DISEASE ANTIGEN

**Frequency/TAT:** M-F

**Tube:** Urine

**Specimen Required:** 10 ml urine, refrigerate

**Lab Section:** Serology

**CPT:** 87449

**SRL#:** 13497

**Reference Range:** Not detected.

**Method:** EIA

## LYME DISEASE DNA, PCR

**Frequency/TAT:** T-Sat

**Tube:** EDTA or yellow ACD, synovial fluids, CSF

**Specimen Required:** Whole blood, room temperature; freeze CSF or synovial fluids

**Lab Section:** Serology

**CPT:** 87476

**SRL#:** 13495

**Method:** PCR

## LYMPH NODES

**Frequency/TAT:** M-F, 7 days

**Tube:**

**Specimen Required:**

**Lab Section:** Cytogenetics

**CPT:** 88239, 88264, 88280

**SRL #:** 1606

## LYSERGIC ACID DIETHYLAMIDE (LSD)

**Frequency/TAT:** M-F

**Tube:** Urine

**Specimen Required:** 5 ml urine

**Lab Section:** Chemistry

**CPT:** 80101

**Reference Range:** Not detected.

## LYSOZYME, SERUM (MURAMIDASE)

**Frequency/TAT:** M-F. Test takes 7-10 days to complete.

**Tube:** Gel

**Specimen Required:** 1 ml serum, freeze

**Lab Section:** Chemistry

**CPT:** 85549

**SRL#:** 8550

**Reference Range:**

Male 3.0-12.8 ug/ml

Female 2.5-12.9 ug/ml

# M

## MACROAMYLASE

**Frequency/TAT:** T, Th

**Tube:** Gel

**Specimen Required:** 3 ml serum, refrigerate

**Lab Section:** Chemistry

**CPT:** 82664

**SRL#:** 8546

**Reference Range:** None detected.

Test included in Amylase Isoenzymes.

## MAG AUTO ANTIBODY (MYELIN-ASSOCIATED GLYCOPROTEIN)

**Frequency/TAT:** M-F

**Tube:** Gel

**Specimen Required:** 1 ml serum

**Lab Section:** Serology

**CPT:** 83520 x 2

**SRL#:** 13240

**Reference Range:**

SGPG < 1:400

MAG < 16 u/ml

Includes MAG and SGPG antibodies.

## MAGNESIUM

**Frequency/TAT:** Daily

**Tube:** Gel

**Specimen Required:** 1 ml serum, refrigerate

**Lab Section:** Chemistry

**CPT:** 83735

**SRL#:** 6895

**Reference Range:** 1.6-2.5 mg/dl

**Critical Range:** < 1.0 and > 4.0 mg/dl

Hemolysis interferes with the test. ABN may be required.

## MAGNESIUM, URINE

**Frequency/TAT:** M-F

**Tube:** Urine

**Lab Section:** Chemistry

**CPT:** 83735

**SRL#:** 8536

**Reference Range:** 12-293 mg/24-hour

Collect a 24-hour urine with 10 ml 6 N HCl.

Refrigerate after collection. Send the entire specimen to the laboratory. ABN may be required.

**MALARIA AB, IFA****Frequency/TAT:** M, W, F**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Serology**CPT:** 86750 x 4**SRL#:** 8537**Reference Range:** < 1:64**Method:** IFAIncludes antibodies to *P. falciparum*, *P. vivax*, *P. malariae*, *P. ovale*.**MALARIA SMEAR****Frequency/TAT:** Daily**Tube:** Lavender**Specimen Required:** 3.0 ml EDTA whole blood**Lab Section:** Hematology**CPT:** 87207**SRL#:** 1452**Reference Range:** None seen.

Mix tube by inversion after collection.

**MANGANESE, PLASMA****Frequency/TAT:** T, Th**Tube:** Royal Blue (Na Heparin)**Specimen Required:** 2 ml plasma, room temperature**Lab Section:** Chemistry**CPT:** 83785**SRL#:** 8538**Reference Range:** 0.0 – 2.4 mcg/L

Separate plasma immediately and transfer to plastic transport tube for shipment.

**MANGANESE, WHOLE BLOOD****Frequency/TAT:** T, Th**Tube:** Royal Blue (Na Heparin)**Specimen Required:** 2 ml whole blood, room temperature**Lab Section:** Chemistry**CPT:** 83785**SRL#:** 8031**Reference Range:** 8.0 – 18.7 mcg/L

Do not centrifuge. Send in original tube.

**MATERNAL TETRA SCREEN****Frequency/TAT:****Tube:** Gel, refrigerate**Specimen Required:****Lab Section:** Chemistry**CPT:** 82105, 82677, 84702, 86336**SRL#:** 10113**Reference Range:** See report.

Test includes AFP (CPT: 82105), estriol (CPT: 82677), dimeric inhibin A (CPT: 86336) and beta HCG (CPT: 84702). Normal values are shown on individual reports and are dependent on the following factors-answers to these conditions must be completed before a report can be issued:

- Mother's weight
- Mother's date of birth
- Mother's race
- Gestational age and how it was determined (ultrasound or physical exam)
- Whether mother is diabetic, and if so, whether she is insulin dependent
- Whether twins or triplets are present.

**MATERNAL TRIPLE SCREEN****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 2 ml serum**Lab Section:** Chemistry**CPT:** See below.**SRL#:** 10112**Reference Range:** See report

Test includes AFP (CPT: 82105), estriol (CPT: 82677) and beta HCG (CPT: 84702). Normal values are shown on individual reports and are dependent on the following factors-answers to these conditions must be completed before a report can be issued:

- Mother's weight
- Mother's date of birth
- Mother's race
- Gestational age and how it was determined (ultrasound or physical exam)
- Whether mother is diabetic, and if so, whether she is insulin dependent
- Whether twins or triplets are present

**MELLARIL (See THIORIDAZINE, QUANTITATIVE)**



**MENINGITIS/ENCEPHALITIS PANEL****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Serology**CPT:** See below.**SRL#:** 13660

Panel detects antibodies to Mumps (soluble and viral antigens) (CPT: 86735), Coxsackie B (B1-B6), (CPT: 86658 x 6), Poliovirus 1, 2 and 3 (CPT: 86658), and Monotest (86308). Comparison of acute and convalescent specimens is of greatest diagnostic value.

**MEPHOBARBITAL (MEBARAL)****Frequency/TAT:** Su-F**Tube:** Red**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 80184**SRL#:** 7880**Reference Range:**

Phenobarbital 15-40 ug/ml

Mephobarbital 8-15 ug/ml

**Toxic Value:** > 40 ug/ml**MERCURY, BLOOD****Frequency/TAT:** M-F**Tube:** Royal blue (Na Heparin)**Specimen Required:** 4 ml whole blood, room temperature**Lab Section:** Chemistry**CPT:** 83825**SRL#:** 10567**Reference Range:** < 8.0 ug/L**MERCURY, URINE****Frequency/TAT:** M-F**Tube:** Urine**Specimen Required:** 24-hour urine, room temperature, no preservative**Lab Section:** Chemistry**CPT:** 83825**SRL#:** 8541**Reference Range:**

Environmental exposure &lt; 5 mcg/g creatine, &lt; 20mcg/L

Send the entire specimen to the laboratory. Occupational Exposure: BEI (sampling time is pre-shift) 35 ug/g Creatinine. BEI (Biological Exposure Indices) based on the 1993-94 recommendations of the American Conference of Governmental Industrial Hygienists (ACGIH).

**METANEPHRINES FRACTIONATED, QUANTITATIVE 24 HOUR****Frequency/TAT:** M-F**Tube:** Urine**Specimen Required:** 24-hour urine**Lab Section:** Chemistry**CPT:** 83835**SRL#:** 10642**Reference Range:**

	Normotensive
Total	127-790 mcg/24 hrs.
>17 yrs. Normetanephrine	82-500 mcg/24 hrs.
>17 yrs. Metanephrine	45-290 mcg/24 hrs.

	Hypertensive
Total	145-1510 mcg/24 hrs.
>17 yrs. Normetanephrine	110-1050 mcg/24 hrs.
>17 yrs. Metanephrine	35-460 mcg/24hrs.

Collect a 24-hour specimen, add 30 ml. of 6 N HCl to the container prior to collection, refrigerate during and after collection. Send the entire specimen to the laboratory.

**METHADONE CONFIRMATION URINE****Frequency/TAT:** M-F**Tube:** Urine**Specimen Required:** 25 ml random, refrigerate**Lab Section:** Chemistry**CPT:** 83840**SRL#:** 7754**Reference Range:** None detected.**Units:** ug/ml**METHADONE SCREEN****Frequency/TAT:** Daily**Tube:** Urine**Specimen Required:** 25 ml random**Lab Section:** Chemistry**CPT:** 80101**SRL#:** 7719**Reference Range:** None detected.

Included in Drug Screen, Complete (CPT: 80101).

**METHAMPHETAMINE****Frequency/TAT:** Daily**Tube:** Urine**Specimen Required:** 10 ml random**Lab Section:** Chemistry**CPT:** 82145**SRL#:** 7752**Reference Range:** None detected.**Units:** ng/ml

**METHEMALBUMIN****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 83857**SRL#:** 8542**Reference Range:** None detected.**METHOTREXATE (MTX)****Frequency/TAT:** Daily**Tube:** Red**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 80299**SRL#:** 8533**Reference Range:**

0.01-5.00 umol/L, therapeutic

**Toxic Value:**

&gt; 5.00 umol/L, potentially toxic after 24 hours

&gt; 0.50 umol/L, potentially toxic after 48 hours

&gt; 0.05 umol/L, potentially toxic after 72 hours

Wrap specimen in aluminum foil to protect from light.

**METHYLDOPA (See ALDOMET)****METHYLMALONIC ACID****Frequency/TAT:** 3-5 days**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 83921**SRL#:** 10108**Reference Range:** 73-376 nmol/L

Separate serum from cells within 1 hour of collection.

**MHA-TP****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Serology**CPT:** 86781**SRL#:** 13112**Reference Range:** Non reactive.

Positive results reported to public health.

**MICROALBUMIN****Frequency/TAT:** M-F**Tube:** Urine**Lab Section:** Chemistry**CPT:** 82043**SRL#:** 10702**Reference Range:****Random urine**

Microalbumin/Creatinine ratio

0-30 mcg albumin/mg creatinine

**24-hour urine**

Microalbumin excretion rate

0-20 mcg/minute

Microalbumin

0-30 mg/day

Microalbumin/Creatinine ratio

0-30 mcg albumin/mg creatinine

Although a random urine is acceptable, a timed specimen is preferred. Collect a timed specimen, refrigerate during collection-do not add a preservative. On the requisition and container note the collection time as 3, 6, or 24 hours. Send the entire specimen to the laboratory.

**MICROFILARIA SMEAR****Frequency/TAT:** Daily**Tube:** Lavender**Specimen Required:** 3 ml EDTA whole blood**Lab Section:** Hematology**CPT:** 87207**SRL#:** 1447**Reference Range:** None seen.

Mix tube by inversion and refrigerate.

**MICROSOMAL ANTIBODY (See TPO ANTIBODY)****MITOCHONDRIAL ANTIBODY****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Serology**CPT:** 86255**SRL#:** 8238**Reference Range:** < 1:20**Method:** IFA**MONOSCREEN, ROUTINE****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Serology**CPT:** 86308**SRL#:** 8080**Reference Range:** Negative**Method:** Latex Agglutination

This test is specific for infectious mononucleosis heterophile antibodies. For this reason, "differential" absorptions are not necessary. If test is negative, the following additional tests are available: EB VCA IgG SRL# 8343, EB VCA IgM SRL# 8298, EBV EA SRL# 8024, EB NA SRL# 8022. Fax add-on requests to (757) 388-1942.

**MORPHINE**

**Frequency/TAT:** M-F  
**Tube:** Urine  
**Specimen Required:** 10 ml random  
**Lab Section:** Chemistry  
**CPT:** 83925  
**SRL#:** 7762  
**Reference Range:** None detected.  
**Units:** ng/ml  
 Included in Opiate Quantitation (CPT: 83925).

**MOTOR AND SENSORY NEUROPATHY PROFILE**

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 3 ml serum, refrigerate  
**Lab Section:** Serology  
**CPT:** 83520 x 7, 86256, 86334  
**SRL#:** 13308  
**Reference Range:** See report.  
**Method:** EIA, IFA, CZE/I  
 Test includes the following components:  
 Ganglioside GM1 Autoantibodies, Neuronal  
 Nuclear (Hu) Autoantibodies-IFA, Ganglioside  
 Asialo-GM 1 Autoantibodies, Myelin-Assoc  
 Glycoprotein IgM Autoantibodies,  
 Sulfoglucuronyl Paragloboside IgM Autoanti-  
 bodies, Ganglioside GD1a Autoantibodies,  
 Ganglioside GD1b Autoantibodies, Ganglioside  
 GQ1b Autoantibodies, IFE Paraprotein,  
 Immunofixation Electrophoresis Interpretation

**MPO ANTIBODY (MYELOPEROXIDASE)**

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 1 ml serum, refrigerate  
**Lab Section:** Serology  
**CPT:** 83520  
**SRL#:** 13420  
**Reference Range:** < 9 u/ml  
**Method:** EIA  
 Antibody to MPO is associated with organ  
 limited vasculitis, including necrotizing and  
 crescentic glomerulonephritis.

**MRSA SCREEN (See CULTURE, ABSCESS OR WOUND)****MS PROFILE**

**Frequency/TAT:** T, Th  
**Tube:** Gel, CSF  
**Specimen Required:** 2 ml serum, 4 ml CSF  
**Lab Section:** Chemistry  
**CPT:** See below.  
**SRL#:** 10748  
**Reference Range:**  
 IgG CSF (CPT: 82784) 0.0-8.6 mg/dl  
 IgG Serum (CPT: 82784) 700-1600 mg/dl  
 Albumin CSF (CPT: 82042) 11-48 mg/dl  
 Albumin Serum (CPT: 82040) 3.5-5.5 g/dl  
 Myelin Basic Protein, CSF  
 (CPT: 83873) 0.0-1.0 ng/ml  
 Oligoclonal Banding, CSF  
 (CPT: 83916) Absent  
 Oligoclonal Banding, Serum  
 (CPT: 83916) Absent  
 IGG/Albumin Ratio, CSF 0.0-2.5  
 IgG Synthesis Rate, CSF -9.9 to +3.3 mg/day  
 IgG Index, CSF 0.0-0.7  
 Freeze 4 ml of CSF that is blood-free and 2 ml  
 serum in labeled plastic collection tubes.

**MULTIPLE SCLEROSIS SCREEN (See MS PROFILE)****MUMPS ANTIBODY IgG, EIA**

**Frequency/TAT:** M, W, F  
**Tube:** Gel  
**Specimen Required:** 1 ml serum, refrigerate  
**Lab Section:** Serology  
**CPT:** 86735  
**SRL#:** 13056  
**Reference Range:** < 0.9 index  
**Method:** EIA

**MUMPS ANTIBODY IgM ANTIBODY**

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 1 ml serum, refrigerate  
**Lab Section:** Serology  
**CPT:** 86735  
**SRL#:** 13541  
**Reference Range:** < 0.9 index  
**Method:** EIA  
 Test is useful in diagnosis of acute mumps  
 infection.

**MURAMIDASE, SERUM (See LYSOZYME)**

**MUSCLE ANTIBODIES****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Serology**CPT:** 86255 x 2**SRL#:** 13293**Reference Range:**

Sarcolemma AB &lt; 1:20

Striated AB &lt; 1:40

**Method:** IFA

Test includes Sarcolemma and Striated muscle ABS.

**MYASTHENIA GRAVIS EVALUATION PROFILE****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Serology**CPT:** 83519, 86255 x 2**SRL#:** 13670**Reference Range:**

Acetylcholine receptor antibodies

Negative &lt; 0.25 nmol/L

Borderline 0.25 – 0.40 nmol/L

Positive &gt; 0.40 nmol/L

Myocardial antibody &lt; 1:20

**Method:** Acetylcholine receptor antibodies (RIA), Antimyocardial (IFA)

No isotopes administered 24 hours prior to venipuncture. Test includes Acetylcholine receptor antibodies and Antimyocardial (also called Antisarcolemma) antibodies. Useful in detection of Myasthenia gravis disease.

**MYCOPLASMA IgG ANTIBODY****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Serology**CPT:** 86738**SRL#:** 13704**Reference Range:** < 200 u/ml**Method:** EIA**MYCOPLASMA IgM ANTIBODY****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Serology**CPT:** 86738**SRL#:** 13705**Reference Range:** < 770 u/ml**Method:** EIA**MYCOPLASMA CULTURE (See CULTURE, MYCOPLASMA)****MYELIN BASIC PROTEIN (MBP)****Frequency/TAT:** M, Th**Tube:** CSF**Specimen Required:** 2 ml CSF, freeze**Lab Section:** Chemistry**CPT:** 83873**SRL#:** 8553**Reference Range:** 0.0 - 1.0 ng/ml

Included in MS Profile. Multiple sclerosis is often episodic. The MBP level may be low to undetectable between attacks. Patients in remission usually have no detectable MBP in their spinal fluid.

**MYELOPEROXIDASE ANTIBODY (MPO)****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Serology**CPT:** 86021**SRL#:** 13420**Reference Range:** < 9 u/ml**MYOGLOBIN, SERUM****Frequency/TAT:** Daily**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 83874**SRL#:** 8554**Reference Range:**

Male 19-68 ng/ml

Female 15-44 ng/ml

Gross hemolysis cause for rejection.

**MYOGLOBIN, URINE QUANTITATIVE****Frequency/TAT:** M-F**Tube:** Urine**Specimen Required:** 20 ml random, refrigerate**Lab Section:** Chemistry**CPT:** 83874**SRL#:** 8558**Reference Range:** < 2 ng/ml**MYSOLINE (PRIMIDONE)****Frequency/TAT:** Daily**Tube:** Gel**Specimen Required:** 1 ml serum**Lab Section:** Chemistry**CPT:** 80188, 80184**SRL#:** 7870**Reference Range:** 5-12 ug/ml**Toxic Value:** > 14 ug/ml

Test includes phenobarbital. Normal value for Phenobarbital 15-35, toxic level of Phenobarbital &gt; 40. Centrifuge and separate within 1 hour of collection.

M  
N

# N

## N-ACETYL PROCAINAMIDE (NAPA)

**Frequency/TAT:** Daily  
**Tube:** Gel  
**Specimen Required:** 1 ml serum, refrigerate  
**Lab Section:** Chemistry  
**CPT:** See below.  
**SRL#:** 7890  
**Reference Range:** 5-30 ug/ml  
 NAPA is not an orderable test, order Procainamide (CPT: 80192).

## NEURONAL ANTIBODY IgG, CSF

**Frequency/TAT:** M-F  
**Tube:** CSF  
**Specimen Required:** 2 ml CSF, freeze  
**Lab Section:** Serology  
**CPT:** 83520  
**SRL#:** 8611  
**Reference Range:** See report.  
**Method:** RIA  
 Freeze specimen in plastic. Useful in detection of CNS Lupus.

## NEURONAL NUCLEAR AB, SR (See HU AB)

## NEURONTIN (See GABAPENTIN, SERUM)

## NEUTROPHIL CYTOPLASMIC AB

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 2 ml serum, refrigerate  
**Lab Section:** Serology  
**CPT:** 86255  
**SRL#:** 13236  
**Reference Range:**  
     C-ANCA < 1:8  
     P-ANCA < 1:8  
**Method:** IFA  
 Includes Cytoplasmic-ANCA and Perinuclear-ANCA.

## NH3 (See AMMONIA)

## NITROGEN, URINE

**Frequency/TAT:** 2-4 days  
**Tube:** Urine  
**Specimen Required:** 24-hour urine, no preservative  
**Lab Section:** Chemistry  
**CPT:** 84540  
**SRL#:** 8559  
**Reference Range:** 4-20 gm/24-hour  
 Collect specimen in plastic urine container, keep at room temperature.

## NORPACE (See DISOPYRAMIDE)

## NORPRAMIN (See DESIPRAMINE)

## NORTRIPTYLINE (See AVENTYL)

## NORWALK-LIKE VIRUS (NLV)

**Frequency/TAT:** M-F  
**Tube:** Stool  
**Specimen Required:** 2 grams minimum, freeze immediately  
**Lab Section:** Serology  
**CPT:** 87449 x 2  
**SRL#:** Miscellaneous referral test  
**Reference Range:** Negative  
**Method:** EIA  
 NLV is the major cause of viral gastroenteritis in children and adults.

## NUCLEOTIDASE, 5'

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 2 ml serum, refrigerate  
**Lab Section:** Chemistry  
**CPT:** 83915  
**SRL#:** 8561  
**Reference Range:** 2-10 IU/L

# O

## OCCULT BLOOD, STOOL

**Frequency/TAT:** Daily  
**Tube:** Stool  
**Specimen Required:** 2 ml  
**Lab Section:** Urinalysis and POCT  
**CPT:** 82270 (multiple specs)  
**SRL#:** 6147  
**Reference Range:** Negative  
 Collect random stool in a clean container or stool correctly applied onto a Hemoccult slide (other occult slides cannot be accepted.)  
 Call Client Services at (757) 388-3621 if slides are needed. ABN may be required.

## OLIGOCLONAL BANDS

**Frequency/TAT:** M-F  
**Tube:** Gel, CSF  
**Specimen Required:** 5 ml of CSF, 1 ml of serum, freeze  
**Lab Section:** Chemistry  
**CPT:** 83916 x 2  
**SRL#:** 8570  
**Reference Range:** None detected.  
 Included in MS Profile. CSF and serum must be collected at the same time. Serum and CSF not submitted together is cause for rejection.

## OPIATE QUANTITATION

**Frequency/TAT:** 5 days  
**Tube:** Urine  
**Specimen Required:** 15 ml random  
**Lab Section:** Chemistry  
**CPT:** 83925  
**SRL#:** 7794  
**Reference Range:** None detected.  
**Units:** ng/ml  
 Test includes morphine and codeine.

#### OPIATE SCREEN

**Frequency/TAT:** Daily  
**Tube:** Urine  
**Specimen Required:** 25 ml random  
**Lab Section:** Chemistry  
**CPT:** 80101  
**SRL#:** 7988  
**Reference Range:** None detected.  
 Included in Drug Screen, Complete (CPT: 80101).

#### ORGANIC ACIDS SCREEN, URINE

**Frequency/TAT:** M-F  
**Tube:** Urine  
**Specimen Required:** 20 ml random urine, frozen  
**Lab Section:** Chemistry  
**CPT:** 83919  
**Reference Range:** Interpretation given with report. Please include patient age, diagnosis, family history, diet and drug therapy information.

#### ORTHOCLONE OKT3 AB

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 2 ml serum, refrigerate  
**Lab Section:** Serology  
**CPT:** 83520  
**SRL#:** 8621  
**Reference Range:** Negative  
**Method:** EIA

#### OSMOLALITY, FECAL

**Frequency/TAT:** Daily, STAT  
**Tube:** Small plastic container  
**Specimen Required:** 15 ml liquid stool, frozen  
**Lab Section:** Urinalysis  
**CPT:** 83930  
**SRL#:** 10120  
 Stool sample must be collected without addition of water. Stool not liquid and stool contaminated with urine are cause for rejection. Do not submit specimen in paint can.

#### OSMOLALITY, SERUM

**Frequency/TAT:** Daily, STAT  
**Tube:** SST Gel  
**Specimen Required:** 1 ml  
**Lab Section:** Urinalysis  
**CPT:** 83930  
**SRL#:** 6148  
**Reference Range:** 280-300 mos/kg  
**Critical Range:** <240 and >320

#### OSMOLALITY, URINE

**Frequency/TAT:** Daily, STAT  
**Tube:** Urine  
**Specimen Required:** 10 ml urine  
**Lab Section:** Urinalysis  
**CPT:** 83935  
**SRL#:** 6149  
**Reference Range:** 200-1200 mos/kg  
 Refrigerate specimen; if sitting overnight, freeze.

#### OSMOTIC FRAGILITY (RBC OSMOTIC FRAGILITY)

**Frequency/TAT:** M-Th  
**Tube:** Lavender  
**Specimen Required:** 3 ml EDTA whole blood, refrigerate  
**Lab Section:** Hematology  
**CPT:** 85557  
**SRL#:** 1485  
**Reference Range:** See report.  
 Testing not available on weekends or holidays. Specimens for testing must be received by noon on Thursday.

#### OSTEOCALCIN (BONE GLA PROTEIN)

**Frequency/TAT:** 3-7 days  
**Tube:** Gel  
**Specimen Required:** 2 ml serum, freeze  
**Lab Section:** Chemistry  
**CPT:** 83937  
**SRL#:** 6639  
**Reference Range:** See report.  
 Transfer serum to a lavender stopper frozen transport tube. The specimen should be frozen immediately and kept frozen until testing.

#### OVA AND PARASITES (O&P)



**Frequency/TAT:** 5-7 days

**Tube:** O&P Transport in Kit (PVA and formalin).  
Stool must be transferred into kit within one hour.

**Specimen Required:** Stool

**Lab Section:** Microbiology

**CPT:** 87177, 87210, 88312, 87209

**SRL#:** 2770

**Reference Range:** None found.

To inoculate the vials use the spoon attached to each lid and add enough stool to bring the fluid level up to the indicator line. After replacing the lid, shake the vial gently. It is recommended that the screening procedure consist of three consecutive daily specimens. If Cryptosporidium is suspected a separate Cryptosporidium test (CPT: 87206), (SRL#: 2773) should be ordered. Call Client Services at (757) 388-3621 if Transport Media is needed. See specimen collection guidelines for microbiology.

## OXALATE

**Frequency/TAT:** M-F

**Tube:** Urine

**Specimen Required:** 24-hour urine

**Lab Section:** Chemistry

**CPT:** 83945

**SRL#:** 8572

**Reference Range:**

Less than 7 years	Not established
7-14 years	13-38 mg/24 hours
Adult Male	7-44 mg/24 hours
Adult Female	4-31 mg/24 hours

Collect a 24-hour urine specimen, add 30 ml 6 N HCl to the container before collection, and refrigerate during and after collection. Send the entire specimen to the laboratory. Avoid vitamin C 24 hours prior to collection.

## PANCREATIC POLYPEPTIDE, SERUM

**Frequency/TAT:** Tuesday

**Tube:** Gel

**Specimen Required:** 3 ml plasma, frozen

**Lab Section:** Chemistry

**CPT:** 83519

**SRL#:** 10773

**Reference Range:** 0-418.0 pg/ml

Patient should fast for 10 hours prior to specimen collection. No radioisotopes should be administered during the 24 hours prior to specimen collection.

## PARAINFLUENZA ABS, CF

**Frequency/TAT:** M-F

**Tube:** Gel

**Specimen Required:** 2 ml serum, refrigerate

**Lab Section:** Serology

**CPT:** 86710 x 3

**SRL#:** 8583

**Reference Range:** < 1:8

**Method:** CF

Test detects antibodies to Parainfluenza 1, 2, and 3. Comparison of acute and convalescent titers is of greatest diagnostic value. Appropriate CPT coding may allow for the reimbursement of the above code three times; please verify this with your provider.

## PARAINFLUENZA CULTURE (See VIRAL CULTURE, COMPREHENSIVE)

### PARIETAL CELL ANTIBODY

**Frequency/TAT:** M-F

**Tube:** Gel

**Specimen Required:** 2 ml serum, refrigerate

**Lab Section:** Serology

**CPT:** 86255

**SRL#:** 8240

**Reference Range:** < 1:20

**Method:** IFA

Other related tests useful for evaluation of pernicious anemia include Vitamin B12, Folate and Intrinsic Factor Antibody.

## PARTIAL THROMBOPLASTIN TIME, ACTIVATED (See APTT)

### PARVOVIRUS B19 IgG AND IgM ANTIBODY PANEL

**Frequency/TAT:** M-F

**Tube:** Gel

**Specimen Required:** 2 ml serum, refrigerate

**Lab Section:** Serology

**CPT:** 86747 x 2

**SRL#:** 13258

**Reference Range:** < 0.8 index

**Method:** EIA

Test includes Parvovirus B19 IgG antibody and Parvovirus B19 IgM antibody.

### PARVOVIRUS DNA PCR

**Frequency/TAT:** M-F

**Tube:** Serum, EDTA Plasma, ACD Plasma

**Specimen Required:** 1 ml serum or plasma, frozen

**Lab Section:** Serology

**CPT:** 87798

**SRL#:** 13740

**Reference Range:** Not detected

**Method:** PCR

## PENTOBARBITAL SERUM

**Frequency/TAT:** T-Sun**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 82205**SRL#:** 7734**Reference Range:** 1-5 ug/ml**Toxic Value:** > 7 ug/ml

Centrifuge and separate serum within 1 hour of collection. Included in Barbiturate Quantitation, Serum (CPT: 80101).

**PEPSINOGEN****Frequency/TAT:** 10-14 days**Tube:** Gel**Specimen Required:** 1 ml serum, freeze**Lab Section:** Chemistry**CPT:** 83519**SRL#:** 8589**Reference Range:** 28-100 ng/ml**PERIPHERAL BLOOD (ROUTINE)****Frequency/TAT:** M-F, 14 days**Tube:** Green top**Specimen Required:** Adults: 3.0 cc whole blood, Newborn/Infant: 1.0 - 2.0 cc whole blood**Lab Section:** Cytogenetics**CPT:** 88230, 88262**SRL #:** 1601**PERIPHERAL BLOOD - HI RESOLUTION****Frequency/TAT:** M-F, 14 days**Tube:** Green top**Specimen Required:** Adults: 3.0 cc whole blood, Newborn/Infant: 1.0 - 2.0 cc whole blood**Lab Section:** Cytogenetics**CPT:** 88230, 88262, 88289**SRL:** 1611**PERIPHERAL BLOOD - MOSAICISM****Frequency/TAT:** M-F, 14 days**Tube:** Green top**Specimen Required:** Adults: 3.0 cc whole blood, Newborn/Infant: 1.0 - 2.0 cc whole blood**Lab Section:** Cytogenetics**CPT:** 88230, 88262, 88289, 88285**SRL:** 1601**PERIPHERAL BLOOD STAT****Frequency/TAT:** M-F, 14 days**Tube:** Green top**Specimen Required:** Adults: 3.0 cc whole blood, Newborn/Infant: 1.0 - 2.0 cc whole blood**Lab Section:** Cytogenetics**CPT:** 88230, 88262, 88280**SRL:** 1601, 1651**PF 4-ELISA ANTIBODY (See PLATELET FACTOR 4-****ELISA ANTIBODY)****PFA 100 (See PLATELET FUNCTION ANALYSIS)****PHENCYCLIDINE, URINE (PCP)****Frequency/TAT:** M-F. Test takes 5 days to complete.**Tube:** Urine**Specimen Required:** 15 ml random, refrigerate**Lab Section:** Chemistry**CPT:** 83992**SRL#:** 8591**Reference Range:** None detected.**Units:** ng/ml**PHENCYCLIDINE (PCP), SERUM****Frequency/TAT:** M-F**Tube:** Red**Specimen Required:** 4 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 80101**SRL#:** 7990**Reference Range:** None detected.**Units:** ng/ml**PHENCYCLIDINE (PCP) SCREEN, URINE****Frequency/TAT:** Daily**Tube:** Urine**Specimen Required:** 25 ml random**Lab Section:** Chemistry**CPT:** 80101**SRL#:** 7716**Reference Range:** None detected.

Included in Drug Screen, Complete (CPT: 80100).

**PHENOBARBITAL****Frequency/TAT:** Daily**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 80184**SRL#:** 7738**Reference Range:** 15-35 ug/ml**Toxic Value:** > 40 ug/ml

Centrifuge and separate serum within 1 hour of collection. Included in Barbiturate Quantitative, Serum (CPT: 80101).

**PHENOL, QUANTITATIVE**

**Frequency/TAT:** M, W, F**Tube:** Urine**Specimen Required:** 50 ml random, refrigerate**Lab Section:** Chemistry**CPT:** 84600**SRL#:** 8592**Reference Range:** Normal < 20.0 mg/L

Collect a random urine in a plastic urine container without preservative. Exposed BEI, phenol exposure (sampling is end of shift): 250.0 mg/g creatinine BEI, benzene exposure (sampling time is end of shift): 50.0 mg/g creatinine.

**PHENOTHIAZINE SCREEN****Frequency/TAT:** M-F**Tube:** Urine**Specimen Required:** 25 ml random, refrigerate**Lab Section:** Chemistry**CPT:** 80101**SRL#:** 7764**Reference Range:** None detected.**PHENYTOIN (See DILANTIN)****PHOSPHATIDIC ACID IgG, IgM, IgA AUTOABS****Frequency/TAT:** M-F**Tube:** Red**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Serology**CPT:** 86147 x 3**SRL#:** 13749**Reference Range:**

IgG &lt; 2.0

IgM &lt; 2.0

IgA &lt; 2.0

**Method:** EIA

Test includes Phosphatidic Acid IgG antibody, Phosphatidic Acid IgM antibody, and Phosphatidic Acid IgA antibody.

**PHOSPHATIDYLCHOLINE IgG, IgM, IgA, AUTOABS****Frequency/TAT:** M-F**Tube:** Red**Specimen Required:** 1 ml serum**Lab Section:** Serology**CPT:** 86147 x 3**SRL#:** 13755**Reference Range:**

IgG &lt; 2.0

IgM &lt; 2.0

IgA &lt; 2.0

**Method:** EIA

Test includes Phosphatidylcholine IgG antibody, Phosphatidylcholine IgM antibody, and Phosphatidylcholine IgA antibody.

**PHOSPHATIDYLETHANDOLAMINE IgG, IgM, IgA AUTOABS****Frequency/TAT:** M-F**Tube:** Red**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Serology**CPT:** 86147 x 3**SRL#:** 13760**Reference Range:**

IgG &lt; 2.0

IgM &lt; 2.0

IgA &lt; 2.0

**Method:** EIA

Test includes Phosphatidylethandamine IgG antibody, Phosphatidylethandamine IgM antibody, and Phosphatidylethandamine IgA antibody.

**PHOSPHATIDYLGLYCEROL IgG, IgM, IgA AUTOABS****Frequency/TAT:** M-F**Tube:** Red**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Serology**CPT:** 84081 x 3**SRL#:** Miscellaneous**Reference Range:**

IgG &lt; 15 u/ml

IgM &lt; 15 u/ml

IgA &lt; 15 u/ml

**Method:** EIA

Test includes Phosphatidylglycerol IgG antibody, Phosphatidylglycerol IgM antibody, and Phosphatidylglycerol IgA antibody.

**PHOSPHATIDYLINOSITOL IgG, IgM, IgA**

**AUTOABS****Frequency/TAT:** M-F**Tube:** Red**Specimen Required:** 1 ml serum, Refrigerate**Lab Section:** Serology**CPT:** 86148 x 3**SRL#:** 13745**Reference Range:**

IgG &lt; 15u/ml

IgM &lt; 15 u/ml

IgA &lt; 15 u/ml

**Method:** EIA

Test includes Phosphatidylinositol IgG antibody, Phosphatidylinositol IgM antibody, and Phosphatidylinositol IgA antibody.

**PHOSPHATIDYLSERINE IgG, IgM, IgA, AUTOABS****Frequency/TAT:** M-F**Tube:** Red**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Serology**CPT:** 86148 x 3**SRL#:** 13738**Reference Range:**

IgA &lt; 10 Eu

IgG &lt; 16 Eu

IgM &lt; 22 Eu

**Method:** EIA

Test includes Phosphatidylserine IgG antibody, Phosphatidylserine IgM antibody, and Phosphatidylserine IgA antibody.

**PHOSPHOLIPID AUTOANTIBODIES**

Cardiolipin antibodies are a type of Phospholipid autoantibody. Please indicate test number when ordering. See individual listing.

**PHOSPHOLIPIDS****Frequency/TAT:** M, Th**Tube:** Red**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 84311**SRL#:** 8596**Reference Range:** 150-250 mg/dl

Patient should fast for 12-14 hours before specimen collection.

**PHOSPHORUS****Frequency/TAT:** Daily**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 84100**SRL#:** 6620**Reference Range:**

Less than 15 years See report.

15-18 years 2.7-4.9 mg/dl

Adult 18-60 years 2.4-4.7 mg/dl

60 years +

2.5-4.5 mg/dl

Hemolysis interferes with the test.

**PHOSPHORUS URINE****Frequency/TAT:** Su- F**Tube:** Urine**Specimen Required:** 25 ml random or timed**Lab Section:** Chemistry**CPT:** 84105**SRL#:** 6901**Reference Range:** 400-1300 mg/24 hours

No reference range for random urine. Collect 25 ml of a random or timed urine, with 6 N HCl, refrigerate during collection. Record the collection time on the requisition and container. Send the entire specimen to the laboratory.

**PINWORM PREPARATION****Frequency/TAT:** 1-2 days**Specimen Required:** Clear (not frosted) tape/paddle prep from perianal region**Lab Section:** Microbiology**CPT:** 87172**SRL#:** 2776**Reference Range:** Negative

Collect specimen in morning before defecation or bathing. Keep at room temperature. For Pinworm Paddle Collection (supplied by the laboratory) – Hold the paddle by the cap and remove it from the tube. Separate the buttocks and press the tacky surface against several areas of the perianal region. Replace the paddle in the tube for transport to the laboratory. Specimens should be refrigerated if examination is to be delayed for more than 1 day.

**PLASMINOGEN****Frequency/TAT:** M-F**Tube:** Blue**Specimen Required:** 1 ml citrated plasma**Lab Section:** Hematology**CPT:** 85420**SRL#:** 1254**Reference Range:** 75-160%

Centrifuge the specimen for 10 minutes as soon as possible after collection. Transfer the plasma to a labeled plastic tube and refrigerate. The specimen should be frozen if it will not be sent to the laboratory immediately.

**PLATELET AGGREGATION (See AGGREGATION PROFILE)**

## PLATELET COUNT

**Frequency/TAT:** Daily  
**Tube:** Lavender  
**Specimen Required:** 3 ml EDTA whole blood  
**Lab Section:** Hematology  
**CPT:** 85049 automated, 85032 manual  
**SRL#:** 1020 automated, 12102 manual  
**Reference Range:** 140-440 thousand/cmm  
 Mix the tube by inversion after collection and refrigerate; clotted or hemolyzed specimens will be rejected. One microtainer is acceptable for capillary collection.

## PLATELET FACTOR 4-ELISA ANTIBODY (PF 4-ELISA)

**Frequency/TAT:** M, W, F  
**Tube:** Red  
**Specimen Required:** 1 ml serum, refrigerate or freeze if not sent to lab immediately.  
**Lab Section:** Serology  
**CPT:** 86022  
**SRL#:** 1277  
**Reference Range:** See pathologist interpretation. SST/Gel tubes are not acceptable. Specimens received in laboratory by 8:30 a.m. will have results available by 9:00 a.m. the following day. Test usually ran in conjunction with heparin aggregation SRL# 1316. Interpretation by pathologist.

## PLATELET FUNCTION ANALYSIS (PFA 100)

**Frequency/TAT:** Daily  
**Tube:** Blue  
**Specimen Required:** 5 ml citrated whole blood  
**Lab Section:** Hematology  
**CPT:** 85576 x 2  
**SRL#:** 1279  
**Reference Range:**  
     PFA Col-EPI      70-180 seconds  
     PFA Col-ADP     52-125 seconds  
 Send STAT, must be performed within 4 hours of collection. Do not spin. Tube must be full.

## PLYORTEC/CLO TEST) (See HELICOBACTER PYLORI SCREENING)

## PM-SCL ANTIBODY (POLYMYOSITIS/SCLERODERMA)

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 1 ml serum, refrigerate  
**Lab Section:** Serology  
**CPT:** 86235  
**SRL#:** 13490  
**Reference Range:** Negative

## PNEUMOCYSTIS SMEAR (PCP)

**Frequency/TAT:** Daily  
**Lab Section:** Cytology  
 Request with cytology examination on respiratory samples.

## PNH SCREEN (HAMM'S TEST)

**Frequency/TAT:** M-Th  
**Tube:** Lavender  
**Specimen Required:** 5 ml  
**Lab Section:** Hematology  
**CPT:** 86941, 85475  
**SRL#:** 13230  
**Reference Range:** Negative  
 If the sugar water test is positive, a Hamm test is strongly recommended. A negative sugar water test rules out PNH in most instances, provided that proportion of patient cells has not been reduced by previous transfusion.

## POLIOVIRUS ABS, CF (TYPES 1-3)

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 2 ml serum, refrigerate  
**Lab Section:** Serology  
**CPT:** 86658 x 3  
**SRL#:** 8599  
**Reference Range:** < 1:8  
**Method:** CF  
 Detects antibodies to Poliovirus 1, 2 and 3. Comparison of acute and convalescent titers is of greatest diagnostic value. Appropriate CPT coding may allow for the reimbursement of the above code 3 times; please verify this with your provider.

## PORPHOBILINOGEN QUANTITATIVE

**Frequency/TAT:** M, W, F  
**Tube:** Urine  
**Specimen Required:** 24-hour urine, freeze  
**Lab Section:** Chemistry  
**CPT:** 84110  
**SRL#:** 8600  
**Reference Range:** 0.0-1.5 mg/24-hour  
 Add 30 ml of 33% glacial acetic acid to the container prior to collection. Protect the specimen from light by wrapping the container in aluminum foil during collection and storage. Refrigerate during collection. Freeze and send entire specimen to the laboratory.

**PORPHYRINS FRACTIONATED**

**Frequency/TAT:** 10-14 days  
**Tube:** Urine  
**Specimen Required:** 24-hour urine  
**Lab Section:** Chemistry  
**CPT:** 84120  
**SRL#:** 8610  
**Reference Range:**

	Male	Female
Uroporphyrins (Octacarboxyl)	8-44 ug/24 hrs	4-22 ug/24 hrs
Heptacarboxyl- porphyrins	< 13 ug/24 hrs	3-9 ug/24 hrs
Hexacarboxyl- porphyrins	< 6 ug/24 hrs	< 6 ug/24 hrs
Pentacarboxyl- porphyrins	< 5 ug/24 hrs	< 4 ug/24 hrs
Coprophohyrins (Tetracarboxyl)	10-109 ug/24 hrs	3-56 ug/24 hrs

Add 5 grams sodium carbonate to the container prior to collection. Protect the specimen from light by wrapping the container in aluminum foil during collection and storage. Refrigerate during collection. Send the entire specimen to the laboratory.

**POTASSIUM**

**Frequency/TAT:** Daily  
**Tube:** Gel  
**Specimen Required:** 1 ml serum, refrigerate  
**Lab Section:** Chemistry  
**CPT:** 84132  
**SRL#:** 6606  
**Reference Range:**

0-4 days	3.7-5.9 mmol/L
4 days-1 month	4.1-5.3 mmol/L
1 month-1 year	3.4-4.7 mmol/L
1 year-adult	3.5-5.5 mmol/L

**Critical Value:** < 3.1 > 5.9 adult  
Hemolysis interferes with the test.

**POTASSIUM, FLUID**

**Frequency/TAT:** Daily  
**Tube:** Fluid  
**Specimen Required:** 1 ml, refrigerate  
**Lab Section:** Chemistry  
**CPT:** 84132  
**SRL#:** 6904  
**Units:** mmol/L  
Specify fluid source. There are no established normals for fluids.

**POTASSIUM, URINE**

**Frequency/TAT:** Daily  
**Tube:** Urine  
**Specimen Required:** 10 ml refrigerate  
**Lab Section:** Chemistry  
**CPT:** 84133  
**SRL#:** 6906  
**Reference Range:** 25-120 mmol/24-hour  
10 ml aliquot of a random, or a timed urine collected without preservative. A 24-hour specimen should be kept cold during collection. Either send the entire 24-hour collection, or note the 24-hour volume.

**PR3 ANTIBODY**

**Frequency/TAT:** M-F  
**Tube:** Red  
**Specimen Required:** 2 ml serum, refrigerate  
**Lab Section:** Serology  
**CPT:** 86021  
**SRL#:** 13425  
**Reference Range:** < 3.5 u/ml  
**Method:** EIA

**PREALBUMIN**

**Frequency/TAT:** Daily  
**Tube:** Gel  
**Specimen Required:** 1 ml serum, refrigerate  
**Lab Section:** Chemistry  
**CPT:** 84134  
**SRL#:** 7012  
**Reference Range:**

0-18 years	11-27 mg/dl
19+ years	20-40 mg/dl

**PREGNANCY TEST, SERUM QUALITATIVE**

**Frequency/TAT:** Daily  
**Tube:** Gel  
**Specimen Required:** 2 ml, refrigerate  
**Lab Section:** Urinalysis  
**CPT:** 84703  
**SRL#:** 6158  
Sensitivity is 25 mIU/ml of HCG.

**PREGNANCY TEST, SERUM QUANTITATIVE (SEE BETA HcG)****PREGNANCY TEST, URINE**

**Frequency/TAT:** Daily  
**Tube:** Urine  
**Specimen Required:** 3 ml, refrigerate  
**Lab Section:** Urinalysis  
**CPT:** 81025  
**SRL#:** 6157  
Sensitivity of this test is 25 IU/ml of HGC. Test includes protein screen and specific gravity.



**PREGNANETRIOL, URINE****Frequency/TAT:** M, W**Tube:** Urine**Specimen Required:** 2 ml serum**Lab Section:** Chemistry**CPT:** See below.**SRL#:** See below.**Reference Range:** 0.2-2.0 mg/24-hour

This test is not orderable. Order 17 Ketosteroids, Fractionated (SRL#: 11995, CPT: 83593). Collect a 24-hour urine specimen in a plastic urine container with 1 gm of boric acid per liter. Refrigerate during and after collection.

**PRENATAL PANEL****Frequency/TAT:** Daily**Tube:** Pink, lavender, SST Gel, and red**Specimen Required:**

Pink (7ml), Lavender (2.5 ml), SST(1 ml), Red (1 ml)

**Lab Section:** Chemistry**CPT:** 80055**SRL#:** 1007**Reference Range:** See report. Test includes type and screen, CBC w/Diff, Rubella, RPR, HBS Antigen**PREKALLIKAEIN (See FLETCHER FACTOR)****PRIMIDONE (See MYSOLINE)****PROCAINAMIDE (PRONESTYL)****Frequency/TAT:** Daily**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 80192**SRL#:** 7890**Reference Range:**

Procainamide	4-10 ug/ml, therapeutic > 20 ug/ml, toxic value
Procainamide + NAPA	5-30 ug/ml, therapeutic > 30 ug/ml, toxic value

Test includes N-acetylprocainamide (NAPA). Centrifuge and separate serum within 1 hour of collection.

**PROGESTERONE, SERUM****Frequency/TAT:** Su-F**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 84144**SRL#:** 8606**Reference Range:**

Male	0.3-1.0 ng/ml
Female, Follicular	0.2-1.4 ng/ml
Luteal	3.3-25.6 ng/ml
Midluteal	4.4-28.0 ng/ml
Postmenopause	0.2-0.7 ng/ml
Pregnancy	
1st trimester	11.2-90.0 ng/ml
Pregnancy	
2nd trimester	25.6-89.4 ng/ml
Pregnancy	
3rd trimester	48.4-422.5 ng/ml

EDTA plasma is acceptable.

**PROGRAF (TACROLIMUS) (See FK506)****PROLACTIN****Frequency/TAT:** Daily**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 84146**SRL#:** 7195**Reference Range:**

Male	2.1-17.7 ng/ml
Female	2.8-29.2 ng/ml
Pregnant	9.7-208.5 ng/ml
Post menopause	1.8-20.3 ng/ml

**PRONESTYL (See PROCAINAMIDE)****PROPOXYPHENE (See DARVON)****PROPOXYPHENE SCREEN (See DARVON SCREEN)****PROPRANOLOL, SERUM (See INDERAL)****PROSTATIC ACID PHOSPHATE****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 84066**SRL#:** 7181**Reference Range:** 0.0-2.7 ng/ml

ABN may be required.

**PROSTATIC SPECIFIC ANTIGEN (PSA)****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate as soon as possible**Lab Section:** Chemistry**CPT:** 84153 (Diagnostic), G0103 (Screening)**SRL#:** 8754 (Diagnostic), 11051 (Screening)**Reference Range:**

Male 0-4.0 ng/ml

Female 0-0.1 ng/ml

Refrigerate specimen. Freeze if specimen will be analyzed later than 24 hours after collection.

Transport on ice. ABN may be required.

**PROTEIN C ANTIGENIC****Frequency/TAT:** M-F**Tube:** Blue**Specimen Required:** 2 ml citrated plasma**Lab Section:** Hematology**CPT:** 85302**SRL#:** 1303**Reference Range:** 65-145%

Centrifuge specimen for 10 minutes as soon as possible after collection. Transfer the plasma to a labeled plastic tube and refrigerate. The specimen should be frozen if it will not be sent to the laboratory immediately. Unless specified, both antigenic and functional assays will be performed.

**PROTEIN C FUNCTIONAL****Frequency/TAT:** M-F**Tube:** Blue**Specimen Required:** 2 ml citrated plasma**Lab Section:** Hematology**CPT:** 85303**SRL#:** 1302**Reference Range:** 60-150%

Centrifuge specimen for 10 minutes as soon as possible after collection. Transfer plasma to a labeled plastic tube and refrigerate. Specimen should be frozen if not sent to the lab immediately. Unless specified, both antigenic and functional assays will be performed.

**PROTEIN C PROFILE****Frequency/TAT:** M-F**Tube:** Blue**Specimen Required:** 2 ml citrated plasma**Lab Section:** Hematology**CPT:** 85302, 85303**SRL#:** 1301

Test includes both Protein C Antigen and Protein C Functional assays. Centrifuge the specimen for 10 minutes as soon as possible, transfer the plasma to a labeled plastic tube and refrigerate. The specimen should be frozen if not sent to the laboratory immediately.

**PROTEIN ELECTROPHORESIS, SERUM****Frequency/TAT:** Daily**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 84165**SRL#:** 10040**Reference Range:**

Albumin 46.6 - 62.6%

Alpha 1 1.5 - 3.4%

Alpha 2 9.0 - 15.8%

Beta 10.9 - 18.9%

Gamma 8.4 - 20.4%

Total Protein

6.4-8.3 g/dl 12-60 years

6.2-8.1 g/dl 60 + years

Test includes total protein and protein fractions. Included in Immunofixation (IFE), Serum (CPT: 86334). Hemolysis interferes with test. A separate professional fee for interpretation will be charged.

**PROTEIN ELECTROPHORESIS, URINE****Frequency/TAT:** Daily**Tube:** Urine**Specimen Required:** 50 ml, refrigerate**Lab Section:** Chemistry**CPT:** 84166**SRL#:** 10038

10 ml aliquot of a random or timed urine collected without preservative. A 24-hour specimen should be kept cold during collection. Either send the entire 24-hour collection or note the 24-hour volume. There are no normal values established for urine; normally a small amount of albumin is present. Included in Immunofixation (IFE), Urine (CPT: 86335). A separate professional fee for interpretation will be charged.

**PROTEIN S ACTIVITY (FUNCTIONAL/FREE)****Frequency/TAT:** M-F**Tube:** Blue**Specimen Required:** 2 ml citrated plasma**Lab Section:** Hematology**CPT:** 85306**SRL#:** 01327**Reference Range:** 60-140%

Centrifuge the specimen for 10 minutes as soon as possible after collection. Transfer the plasma to a labeled plastic tube and refrigerate. The specimen should be frozen if it will not be sent to the laboratory immediately.

## PROTEIN S ANTIGEN (TOTAL)

**Frequency/TAT:** M-F

**Tube:** Blue

**Specimen Required:** 2 ml citrated plasma

**Lab Section:** Hematology

**CPT:** 85305

**SRL#:** 01326

**Reference Range:** 60-130%

Centrifuge specimen for 5-10 minutes as soon as possible, transfer plasma to labeled plastic tube and refrigerate. Specimen should be frozen if not sent to the laboratory immediately.

## PROTEIN TOTAL, SERUM (TOTAL PROTEIN, SERUM)

**Frequency/TAT:** Daily

**Tube:** Gel

**Specimen Required:** 1 ml serum, refrigerate

**Lab Section:** Chemistry

**CPT:** 84155

**SRL#:** 6610

**Reference Range:**

0-1 week	4.4-7.6 gm/dl
1 week-1 year	5.1-7.3 gm/dl
1 year-3 years	5.6-8.0 gm/dl
3-12 years	6.0-8.0 gm/dl
12-60 years	6.4-8.3 gm/dl
> 60 years	6.2-8.1 gm/dl

Hemolysis interferes with the test

## PROTEIN TOTAL, URINE (TOTAL PROTEIN, URINE)

**Frequency/TAT:** Daily

**Tube:** Urine

**Specimen Required:** 10 ml, refrigerate

**Lab Section:** Chemistry

**CPT:** 84156

**SRL#:** 6907

**Reference Range:** 0-150 mg/24-hour

10 ml aliquot of a random or timed urine collected without preservative. A 24-hour specimen should be kept cold during collection. Either send the entire 24-hour collection or note the 24-hour volume.

## PROTHROMBIN GENE MUTATION (See PROTHROMBIN NUCLEOTIDE 20210 G)

## PROTHROMBIN NUCLEOTIDE 20210 G (FACTOR II, PROTHROMBIN GENE MUTATION)

**Frequency/TAT:** M-F. Test takes 7 days to complete.

**Tube:** Lavender

**Specimen Required:** 5 ml EDTA whole blood, refrigerate.

**Lab Section:** Molecular

**CPT:** 83903, 83898, 83890, 83912

**SRL#:** 20010

**Reference Range:** Negative

May require Patient Informed Consent form.

## PROTHROMBIN TIME

**Frequency/TAT:** Daily

**Tube:** Blue sodium citrate

**Specimen Required:** 5 ml citrated whole blood, refrigerate

**Lab Section:** Hematology

**CPT:** 85610

**SRL#:** 1251

**Reference Range:** 9.0-13.0 seconds

Therapeutic ranges for anticoagulant therapy are INR 2.0-3.0 for most Coumadin patients for DVT/PE prevention; INR 2.5-3.5 for patients with mechanical heart valve or recurrent thromboembolism. Mix the tube by inversion after collection. Clotted, hemolyzed specimens or tubes not filled to required volume will be rejected. Blue top sodium citrate samples stable for 24 hours at 2-6 degrees Celsius. 1.0 ml frozen plasma (sodium citrate) is acceptable, but not preferred. Do not uncap. ABN may be required.

## PROTRIPTYLINE

**Frequency/TAT:** 10-14 days

**Tube:** Red

**Specimen Required:** 3 ml serum, room temperature

**Lab Section:** Chemistry

**CPT:** 82491

**SRL#:** 7830

**Reference Range:** 70-250 ng/ml

**Toxic Value:** > 500 ng/ml

Do not use gel barrier tube for collection.

## PROZAC (See FLUOXETINE)

## PSEUDOCHELINESTERASE

**Frequency/TAT:** M-F

**Tube:** Lavender

**Specimen Required:** 2 ml plasma, refrigerate

**Lab Section:** Chemistry

**CPT:** 82480

**SRL#:** 6910

**Reference Range:** 1000-3500 U/L

Separate plasma from cells immediately and place in transfer tube.

**PTH, INTACT****Frequency/TAT:** M-Th**Tube:** Gel**Specimen Required:** 4 ml serum, freeze as soon as possible**Lab Section:** Chemistry**CPT:** 83970**SRL#:** 6956**Reference Range:** 12-72 pg/ml

Normal and abnormal PTH interpretation is dependent upon calcium value for the specimen, includes total calcium.

**PURKINSE CELL AB****(See YO AUTOANTIBODY #13106)****PYRUVATE KINASE, RBC****Frequency/TAT:** 10-14 days**Tube:** Yellow**Specimen Required:** 6 ml, refrigerate**Lab Section:** Chemistry**CPT:** 84220**SRL#:** 8626**Reference Range:** 9.0-22.0 ug/dl**PYRUVIC ACID****Frequency/TAT:** T, Th**Tube:** Grey (sodium fluoride), prechill**Specimen Required:** 5 ml whole blood**Lab Section:** Chemistry**CPT:** 84210**SRL#:** 6911**Reference Range:** 0.3-0.7 mg/dl

Draw the specimen in a pre-chilled grey top tube. Immediately after drawing blood, mix a minimum of 5 ml of whole blood with an equal volume of 8% perchloric acid. Refrigerate for five minutes to ensure complete protein precipitation. Mix well, centrifuge and put the clear supernatant in a plastic vial. Discard the cellular debris sediment.

**Q****Q FEVER ANTIBODY****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Serology**CPT:** 86638**SRL#:** 8615**Reference Range:** < 1:16**Method:** IFA**QUINIDINE****Frequency/TAT:** Daily**Tube:** Red**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 80194**SRL#:** 7955**Reference Range:** 2-5 ug/ml**Toxic Value:** > 6.0 ug/ml**R****RABIES ANTIBODY TITER (VACCINE RESPONSE)****Frequency/TAT:** 7 days**Tube:** Red**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Serology**CPT:** 86317**SRL#:** 8625**Reference Range:**  $\geq$  .50 lu/mL**Method:** EIA

This assay measures anti-rabies Glycoprotein antibodies produced in response to rabies vaccination. Antibody levels of 0.50 lu/mL or greater are expected in post-vaccination specimens.

**RAJI CELL (See IMMUNE COMPLEXES)****RBC FOLATE (See FOLIC ACID RBC)****RENAL FUNCTION PANEL****Frequency/TAT:** Daily**Tube:** Gel**Specimen Required:** 1 ml serum**Lab Section:** Chemistry**CPT:** 80069**SRL#:** 11050

Panel includes glucose, BUN, sodium, potassium, chloride, carbon dioxide, creatinine, calcium, albumin and phosphorus.

**Q  
R**

**RENIN****Frequency/TAT:** M-F**Tube:** Pink**Specimen Required:** 3 ml plasma, freeze as soon as possible**Lab Section:** Chemistry**CPT:** 84244**SRL#:** 7210**Reference Range:**

Normal salt, upright 1.31-3.95 ng/ml/hour

Normal salt, supine 0.15-2.33 ng/ml/hour

Restricted salt intake

Sodium excretion 0-30 mmol/24 hours

8.82-23.86 ng/ml/hour

Sodium excretion 30-75 mmol/24 hours

4.09-7.73 ng/ml/hour

Sodium excretion 75-150 mmol/24 hours

1.44-2.80 ng/ml/hour

Sodium excretion &gt; 150 mmol/24 hours

0.39-1.31 ng/ml/hour

Centrifuge specimen at room temperature, transfer to plastic vial and freeze. If a differential series of renins is ordered, ensure that aliquot tube is labeled and corresponds to original tube and collection time.

**REPTILASE TIME****Frequency/TAT:** M-F**Tube:** Blue**Specimen Required:** 1 ml citrated plasma**Lab Section:** Hematology**CPT:** 85635**SRL#:** 1225**Reference Range:** 16-20 seconds

Centrifuge the specimen for 5-10 minutes as soon as possible after collection. Transfer the plasma to a labeled plastic tube and refrigerate. The specimen should be frozen if it will not be sent to the laboratory immediately.

**RESPIRATORY SYNCYTIAL (RSV) RAPID ANTIGEN SCREEN****Frequency/TAT:** Daily**Lab Section:** Microbiology**CPT:** 87807**SRL#:** 16200**Reference Range:** Negative

Submit nasopharyngeal swab or nasal washing or aspirate in sterile container. Call Client Services at (757) 388-3621 if Viral Transport Media is needed. See specimen collection information for microbiology and procedures for specimen collection.

**RETICULIN IgA ANTIBODY****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Serology**CPT:** 86255**SRL#:** 13442**Reference Range:** < 1:20**Method:** IFA**RETICULIN IgG ANTIBODY****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 2 ml serum, room temperature**Lab Section:** Serology**CPT:** 86255**SRL#:** 13728**Reference Range:** < 1:20**Method:** IFA**RETICULOCYTE COUNT****Frequency/TAT:** Daily**Tube:** Lavender**Specimen Required:** 3 ml EDTA whole blood**Lab Section:** Hematology**CPT:** 85045**SRL#:** 1021**Reference Range:** 0.5-1.5%

Mix the tube by inversion after collection and refrigerate; clotted or hemolyzed specimens will be rejected. One microtainer is acceptable for capillary collection.

**RESPIRATORY SYNCYTIAL VIRUS (RSV) AB****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Serology**CPT:** 86756**SRL#:** 8628**Reference Range:** < 1:8**Method:** CF

Comparison of acute and convalescent titers is of greatest diagnostic value. Non-fasting specimens cause method interference.

**REVERSE T3**

**Frequency/TAT:** T, Th  
**Tube:** Gel  
**Specimen Required:** 2 ml serum  
**Lab Section:** Chemistry  
**CPT:** 84482  
**SRL#:** 10826  
**Reference Range:**  
     > 15 years      90-350 pg/ml  
 EDTA or sodium heparin plasma is acceptable.

**RHEUMATOID ARTHRITIS FACTOR**

**Frequency/TAT:** M, W, F  
**Tube:** Gel  
**Specimen Required:** 2 ml serum, refrigerate  
**Lab Section:** Chemistry  
**CPT:** 86431  
**SRL#:** 10770  
**Reference Range:** < 20 IU/ml

**RHEUMATOID ARTHRITIS FACTOR, BODY FLUID**

**Frequency/TAT:** M, W, F  
**Tube:** Red  
**Specimen Required:** 2 ml fluid, refrigerate  
**Lab Section:** Serology  
**CPT:** 86431  
**SRL#:** 8106  
**Reference Range:** < 15 IU/ml  
**Method:** EIA

**RI AUTOANTIBODIES (See HU AUTOANTIBODY)****RIBOSOMAL P PROTEIN ANTIBODY**

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 1 ml serum, refrigerated  
**Lab Section:** Serology  
**CPT:** 83516  
**SRL#:** 13108  
**Normal Range:** < 1.0  
**Method:** MAID

**RISTOCETIN AGGREGATION**

**Frequency/TAT:** M-F  
**Lab Section:** Hematology  
**CPT:** 85576  
**SRL#:** 1235  
**Reference Range:** See interpretation.  
 Draw 9.0 ml of blood using plastic syringe.  
 Transfer specimen to a plastic tube containing  
 1.0 ml sodium citrate. Mix the tube by inver-  
 sion. Keep specimen at room temperature.  
 Send to laboratory within an hour. Clotted,  
 hemolyzed or tubes not filled to required  
 volume will be rejected. This test uses only  
 Ristocetin as the aggregating agent. Test must  
 be scheduled in advance with Hematology,  
 please call Client Services at (757) 388-3621.

**RMSF ANTIBODY IgG, IFA  
(Rocky Mountain Spotted Fever)**

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 1 ml serum, refrigerate  
**Lab Section:**  
**CPT:** 86757  
**SRL#:** 13294  
**Reference Range:** < 1:16  
**Method:** IFA

**RMSF ANTIBODY IgM  
(Rocky Mountain Spotted Fever)**

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 1 ml serum, refrigerate  
**Lab Section:** Serology  
**CPT:** 86757  
**SRL#:** 13388  
**Reference Range:** < 9 units  
**Method:** IFA

**ROTAVIRUS ENZYME IMMUNOASSAY**

**Frequency/TAT:** 2-4 days  
**Tube:** Sterile container  
**Specimen Required:** 1 gram stool  
**Lab Section:** Microbiology  
**CPT:** 87425  
**SRL#:** 2845  
**Reference Range:** None detected.  
 Freeze specimen prior to transport.

**RPR (RAPID PLASMA REAGIN)**

**Frequency/TAT:** M-Sat  
**Tube:** Gel  
**Specimen Required:** 2 ml serum, refrigerate  
**Lab Section:** Serology  
**CPT:** 86592  
**SRL#:** 8110  
**Reference Range:** Nonreactive  
**Method:** Reagin test  
 RPR titer (SRL#: 13009, CPT#: 86593) will be  
 performed if screen is positive. FTA-ABS  
 (SRL#: 8045, CPT: 86781) will be done if  
 needed and separately billed. FTA-ABS will  
 not be performed if patient has two previous  
 FTA reactives on record.

**RSV (See RESPIRATORY SYNCYTIAL VIRUS AB)**



**RUBELLA ANTIBODY IgG SCREEN****Frequency/TAT:** M-Sat**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Serology**CPT:** 86762**SRL#:** 8117**Reference Range:** Positive**Method:** EIA

A positive result indicates immunity to Rubella virus.

**RUBELLA ANTIBODY IgM****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 1 ml serum**Lab Section:** Serology**CPT:** 86762**SRL#:** 13114**Reference Range:** < 0.89 index**RUBEOLA ANTIBODY, EIA****Frequency/TAT:** M, Th**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Serology**CPT:** 86765**SRL#:** 8839**Method:** EIA**Reference Range:** value greater than 20 EU/ml is indicative of immunity**S****SACCHAROMYCES CEREVISIAE IgG AND IgA ANTIBODY PANEL****Frequency/TAT:** M-F**Tube:** Gel**Lab Section:** Serology**CPT:** 86671 x 2**SRL#:** 13178**Reference Range:** < 20 units

Includes Saccharomyces cerevisiae IgG antibody and Saccharomyces cerevisiae IgA antibody.

**S  
T****SALMONELLA ANTIBODIES****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Serology**CPT:** 86000 x 4**SRL#:** 13267**Reference Range:**

Typhoid O, Group D &lt; 1:20

Typhoid H, Group A &lt; 1:20

Typhoid H, Group B &lt; 1:20

Typhoid H, Group D &lt; 1:20

**Method:** Agglutination**SARS (SEVERE ACUTE RESPIRATORY SYNDROME)**

Call Client Services at (757) 388-3621 for special instructions.

**SCHISTOSOMA ANTIBODY IgG****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Serology**CPT:** 83882**SRL#:** 8641**Reference Range:** < 1.0 index**Method:** EIA**SCLERODERMA ANTIBODY****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Serology**CPT:** 86235**SRL#:** 8642**Reference Range:** < 20 units**Method:** EIA**SECOBARBITAL****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 3 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 82205**SRL#:** 7735**Reference Range:** 1-5 ug/ml**Toxic Value:** > 9 ug/ml

Centrifuge and separate serum within 1 hour of collection. Included in Barbiturate Quantitative, Serum (CPT: 80101).

**SECRETIN (GASTRIN STIMULATION)****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 2 ml serum, freeze**Lab Section:** Chemistry**CPT:** 82941**SRL#:** 7145**Reference Ranges:**

0 - 1 month: 69 - 190 pg/mL

1 - 22 mos.: 55 - 186 pg/mL

**22 mos. - 16 years:**

Fasting 3-4 hours: 2 - 168 pg/mL

Fasting 5-6 hours: 3 - 117 pg/mL

Fasting &gt; 8 hours: 1 - 125 pg/mL

**> 16 years:** 0 - 115 pg/mL

Patient must fast 12-14 hours prior to collection of baseline; 2 ml of serum is collected at times specified by the physician, both before and after stimulation with Secretin. Make sure that each tube is accurately labeled with the time collected. Order a Gastrin Stimulation for each specimen.

**SED RATE, SEDIMENTATION RATE (See ESR)****SELENIUM, BLOOD**

**Frequency/TAT:** M-Th  
**Tube:** Dark blue, store at room temperature  
**Specimen Required:** 2 ml whole blood  
**Lab Section:** Chemistry  
**CPT:** 84255  
**SRL#:** 13810  
**Reference Range:** 79-326 ug/l

**SEROTONIN, SERUM**

**Frequency/TAT:** M-F  
**Tube:** Red top  
**Specimen Required:** 2 ml serum, frozen.  
 Separate within 30 minutes of draw and freeze.  
**Lab Section:** Chemistry  
**CPT:** 84260  
**SRL#:** 8646  
**Reference Range:**  
     Male: 21-23 ng/ml  
     Female: 0-420 ng/ml  
 Be sure to clearly indicate sex of patient.

**SEROTONIN, BLOOD**  
 (See HYDROXYTRYPTAMINE, 5)

**SGOT (GOT, AST)**  
 (See ASPARTATE AMINOTRANSFERASE)

**SGPT (GPT, ALT)**  
 (See ALANINE AMINOTRANSFERASE)
**SICKLE CELL SCREEN**

**Frequency/TAT:** Daily  
**Tube:** Lavender  
**Specimen Required:** 3 ml EDTA whole blood  
**Lab Section:** Hematology  
**CPT:** 85660  
**SRL#:** 1023  
**Reference Range:** Negative  
 Mix the tube by inversion after collection and refrigerate; clotted or hemolyzed specimens will be rejected. One microtainer is acceptable for capillary collection.

**SINEQUAN (See DOXEPIN)**
**68 KD ANTIGEN ANTIBODY (SIXTY-EIGHT KD**  
**ANTIGEN ANTIBODY)**

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 3 ml serum, refrigerate  
**Lab Section:** Serology  
**CPT:** 84182  
**SRL#:** Miscellaneous referral testing  
**Reference Range:** Negative  
**Method:** Western Blot

**SJOGRENS ANTIBODIES**

**Frequency/TAT:** M, Th  
**Tube:** Gel  
**Specimen Required:** 1 ml serum, refrigerate  
**Lab Section:** Serology  
**CPT:** 86235 x 2  
**SRL#:** 13059  
**Reference Range:** < 16 EU/ml  
**Method:** EIA  
 Detects antibodies to SSA-(RO) and SSB-(La).

**SKELETAL MUSCLE ANTIBODY**

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 2 ml serum, refrigerate  
**Lab Section:** Serology  
**CPT:** 86255 x 2  
**SRL#:** 13293  
**Reference Range:**  
     Sarcolema AB < 1:20  
     Striational AB < 1:40  
**Method:** IFA  
 Test includes Sarcolema antibodies and Striational antibodies. Acetylcholine Receptor Antibody is also useful in the evaluation of Myasthenia Gravis.

**SKIN ANTIBODIES**

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 2 ml serum, refrigerate  
**Lab Section:** Serology  
**CPT:** 86255  
**SRL#:** 13296  
**Reference Range:** < 1:10  
**Method:** IFA  
 Detects antibodies to Pemphigus and Bullous pemphigoid in serum.

**SMOOTH MUSCLE ANTIBODY**

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 1 ml serum, refrigerate  
**Lab Section:** Serology  
**CPT:** 86255  
**SRL#:** 8243  
**Reference Range:** < 1:20  
**Method:** IFA

**SODIUM**

**Frequency/TAT:** Daily  
**Tube:** Gel  
**Specimen Required:** 1 ml serum, refrigerate  
**Lab Section:** Chemistry  
**CPT:** 84295  
**SRL#:** 6605  
**Reference Range:** 136-145 mmol/L  
**Critical Range:** < 121 mmol/L and > 159 mmol/L

**SODIUM, FLUID****Frequency/TAT:** Daily**Tube:** Fluid**Specimen Required:** 1 ml, refrigerate**Lab Section:** Chemistry**CPT:** 84302**SRL#:** 6923**Units:** mmol/L

Specify source of the fluid; there are no established normals for fluids.

**SODIUM, URINE****Frequency/TAT:** Daily**Tube:** Urine**Specimen Required:** 10 ml, refrigerate**Lab Section:** Chemistry**CPT:** 84300**SRL#:** 6925**Reference Range:**

Male 40-220 mmol/24-hour

Female 30-290 mmol/24-hour

10 ml aliquot of a random or timed urine collected without preservative. A 24-hour specimen should be kept cold during collection. Either send the entire 24-hour collection or note the 24-hour volume.

**SOMATOMEDIN C****(INSULIN-LIKE GROWTH FACTOR-1, IGF)****Frequency/TAT:** M-Th**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 84305**SRL#:** 8623**Reference Range:**

	Male	Female
2-5 yrs	17-248 ng/ml	17-248 ng/ml
6-8 yrs	88-474 ng/ml	88-274 ng/ml
9-11 yrs	110-565 ng/ml	117-771 ng/ml
12-15 yrs	202-957 ng/ml	261-1096 ng/ml
16-25 yrs	182-780 ng/ml	182-780 ng/ml
25-39 yrs	114-492 ng/ml	114-492 ng/ml
40-54 yrs	90-360 ng/ml	71-290 ng/ml
≥ 55 yrs	71-290 ng/ml	71-290 ng/ml

Please note age of patient on requisition.

**STONE ANALYSIS****Frequency/TAT:** 4-6 weeks**Lab Section:** Chemistry**CPT:** 82360**SRL#:** 8652**Reference Range:** Not specified.

Indicate the source of the stone(s). Place the stone(s) in a sterile plastic vial.

**STOOL EVALUATION, MICROSCOPIC****Frequency/TAT:** Daily**Tube:** Stool**Specimen Required:** 1 ml, no preservative**Lab Section:** Microbiology**CPT:** 89160**SRL#:** 2771

The specimen is screened for WBC, mucous, meat fibers and yeast cells.

**RAPID STREP A SCREEN****Frequency/TAT:** Daily**Lab Section:** Microbiology**CPT:** 87880**SRL#:** 1126**Reference Range:** Negative

A sterile Culturette in transport media is used for collection. No gel tubes accepted. Do not use calcium alginate swab. A second swab is needed if reflex throat culture is ordered.

**STREPTOCOCCUS PNEUMONIAE IgG ANTIBODIES, 7 SEROTYPES****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Serology**CPT:** 86609 x 7**SRL#:** Miscellaneous referral testing**Reference Range:** > 1.0 ug/mL**Method:** IAA

Determination of human IgG antibody levels to Streptococcus pneumoniae polysaccharide-specific serotypes and immunization efficiency of the Pneumococcal Heptavalent vaccine comprising serotypes 4, 6B, 9V, 14, 18C, 19F, and 23F.

**SPOROTRICHOSIS IgG ANTIBODY****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Serology**CPT:** 86403**SRL#:** 8651**Reference Range:** < 1:4**Method:** Agglutination

**STREPTOCOCCUS PNEUMONIAE IgG ANTIBODIES, 14 SEROTYPES****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Serology**CPT:** 86609 x 14**SRL#:** Miscellaneous referral testing**Reference Range:** > 1.0 ug/mL**Method:** IAA

Determination of human IgG antibody levels to Streptococcus pneumoniae polysaccharide-specific serotypes and immunization efficiency of the Pneumococcal vaccination, comprising serotypes 1, 3, 4, 5, 6B, 7F, 8, 9N, 9V, 12F, 14, 18C, 19F, 23F.

**STREPTOLYSIN O ABS, ANTI  
(See ASO ANTIBODIES)****STREPTOZYME****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Serology**CPT:** 86063**SRL#:** 8120**Reference Range:** Negative**Method:** Agglutination

ASO titer will be performed if Streptozyme screen is positive. Test screens for antibodies to DNAase, hyaluronidase, streptokinase, NADase and Streptolysin O.

**STRIATED MUSCLE ANTIBODY (See SKELETAL MUSCLE ANTIBODY)****STRONGYLODIASIS ANTIBODY****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Serology**CPT:** 83882**SRL#:** 8655**Reference Range:** < 1.00**Method:** EIA**SULFA SERUM LEVEL****Frequency/TAT:** 2-4 days**Tube:** Gel**Specimen Required:** 4 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 80299**SRL#:** 6927**Reference Range:** 50-100 ug/ml

Lavender (EDTA) is acceptable. Indicate on the requisition and sample container the sulfa drug to be assayed. Interpretation given in report.

**T****T 3 FREE (FREE TRI-IODOTHYRONINE)****Frequency/TAT:** Su-F**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 84481**SRL#:** 10422**Reference Range:** 2.3-4.2 pg/ml**T 3 REVERSE****Frequency/TAT:** T, Th**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 84482**SRL#:** 10826**Reference Range:** 90-350 pg/ml

EDTA or sodium heparin plasma is acceptable.

**T 3, TOTAL****Frequency/TAT:** Daily**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 84480**SRL#:** 7225**Reference Range:**

18 years-adult 60-181 ng/dl

**T 4 FREE (FREE THYROXINE)****Frequency/TAT:** Daily**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 84439**SRL#:** 8662**Reference Range:** 0.9-1.8 ng/dl

This is the measurement of T4 that is not protein bound. ABN may be required.

**T 4 (THYROXINE)****Frequency/TAT:** Daily**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 84436**SRL#:** 7235**Reference Range:** 4.5-10.9 ug/dl

ABN may be required.

**TACROLIMUS (PROGRAF) (See FK506)****TAMBOCOR (See FLECAINIDE)**

**T AND B CELL PANEL****Frequency/TAT:** M-F**Tube:** Yellow and Lavender**Specimen Required:** 2 ml ACD-A and 2 ml EDTA**Lab Section:** Flow Cytometry**CPT:** 86360, 86361, 88184, 88185**SRL#:** 15011

Testing not available on weekends or holidays. Specimens for testing should not be collected between Friday noon and Sunday noon and must be received by noon on Friday. Panel includes CD3%; CD4% and absolute; CD4/CD8 ratio and CD19%. CD 16 (NK cell) is included with pediatric specimens; must specify on requisition to be included with adult specimens. Order T and B Cell Panel and CBC/diff or send CBC/diff results collected within 24 hours of T and B Cell collection. Use the fluorescent-labeled transport bags if available. The specimen must not be frozen or refrigerated; store at room temperature.

**TAY SACHS DISEASE, DNA ANALYSIS****Frequency/TAT:** M-F. Test takes 4 days to complete.**Tube:** Lavender (for whole blood) or sterile plastic tube (for amniotic fluid)**Specimen Required:** 7 ml of whole blood or 10 ml amniotic fluid, room temperature**Lab Section:** Chemistry**CPT:** 83890, 83892, 83893, 83894, 83896, 83901, 83912**SRL#:** 10083

Prenatal diagnosis requires 30 ml of amniotic fluid.

**TAY SACHS DISEASE, SERUM (HEXOAMINADASE AB)****Frequency/TAT:** M-F. Test takes 4 days to complete.**Tube:** Red**Specimen Required:** 3 ml serum, frozen**Lab Section:** Chemistry**CPT:** 83080**SRL#:** 10088

Collect one red top tube, let clot in refrigerator or on ice, centrifuge for 5 minutes, separate and freeze serum in a plastic vial within 30 minutes of venipuncture.

**TEICHOIC ACID ANTIBODY****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Serology**CPT:** 86329**SRL#:** 8665**Reference Range:** < 1:2**Method:** DID**TEMAZEPAM****Frequency/TAT:** 10-14 days**Tube:** Red**Specimen Required:** 2 ml serum, room temperature**Lab Section:** Chemistry**CPT:** 80154**SRL#:** 8629**Reference Range:**

190-570 ng/ml, 2-5 hours past dose

&lt; 30 ng/ml, 24 past dose

**TESTOSTERONE****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 84403**SRL#:** 7582**Reference Range:**

Male 241-827 ng/dl

Female 14-76 ng/dl

**TESTOSTERONE, FREE****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 3 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 84402**SRL#:** 10638**Reference Range:**

	Male	Female
6 -10 yrs	0.01-0.32 ng/dl	0.01-0.09 ng/dl
10 -12 yrs	0.06-0.57 ng/dl	0.10-0.52 ng/dl
12 -15 yrs	0.14-15.60 ng/dl	0.10-0.52 ng/dl
15 -17 yrs	8.00-15.90 ng/dl	0.10-0.52 ng/dl
17 -150 yrs	5.00-21.00 ng/dl	0.10-0.85 ng/dl

Indicate patient's age and sex on requisition.

**TEGRETOL (See CARBAMAZEPINE)**

**TETANUS ANTIBODY****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 1 ml serum**Lab Section:** Serology**CPT:** 86317**SRL#:** 13210**Reference Range:**

≥ 0.5 lu/mL, protective antibody level  
 < 0.1 lu/mL, non-protective antibody level

**Method:** EIA**THEOPHYLLINE****Frequency/TAT:** Daily**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 80198**SRL#:** 7960**Reference Range:**

> 1 month old: 10-20 ug/ml

**Toxic Value:** > 20 ug/ml

Centrifuge and separate within 1 hour of collection.

**THIAMINE, WHOLE BLOOD (VITAMIN B1)****Frequency/TAT:** 3-5 days**Tube:** Green**Specimen Required:** 3 ml whole blood, freeze**Lab Section:** Chemistry**CPT:** 84425**SRL#:** 8637**Reference Range:** 25.0-75 ug/l

Protect the specimen from light immediately after collection, during storage and transport by wrapping in foil. Do not separate plasma from cells; transfer the whole blood into a labeled plastic vial and freeze as soon as possible. Transport on ice.

**THIOCYANATE****Frequency/TAT:** 10-14 days**Tube:** Red**Specimen Required:** 3 ml serum, room temperature**Lab Section:** Chemistry**CPT:** 84430**SRL#:** 7965**Reference Range:**

Non smokers	0.1-0.4 mg/dl
Smokers	0.3-1.2 mg/dl
Nitroprusside therapy	0.6-2.9 mg/dl
<b>Toxic Value:</b>	> 10.0 mg/dl

**THIORIDAZINE, QUANTITATIVE (MELLARIL)****Frequency/TAT:** M, W, F**Tube:** Red**Specimen Required:** 3 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 84022**SRL#:** 8691**Reference Range:** 0.5-5.0 ug/ml, therapeutic

Do not use a gel barrier tube for collection. For therapeutic monitoring, collect specimen immediately prior to next dose.

**THROMBIN TIME****Frequency/TAT:** Daily**Tube:** Blue**Specimen Required:** 1 ml citrated plasma**Lab Section:** Hematology**CPT:** 85670**SRL#:** 1224**Reference Range:** 13-19 seconds

Centrifuge the specimen for 10 minutes as soon as possible after collection. Transfer the plasma to a labeled plastic tube and refrigerate. The specimen should be frozen if it will not be sent to the laboratory immediately.

**THROMBOTIC RISK PANEL****Frequency/TAT:** M-F**Tube:** 1 Red; 1 Lavender; 3 Blue**Specimen Required:** 1 ml serum; 5 ml EDTA anticoagulated whole blood; 4 ml citrated plasma.**Lab Section:** Hematology**CPT:** See test specific information**SRL#:** See test specific information**Reference Range:** See test specific information.

Panel Includes: Activated Protein C resistance; Homocysteine; Anticardiolipin Antibodies (IGG, IGM, IGA); Prothrombin Gene Mutation and Lupus anticoagulant. Upon completion of all tests, a Pathologist will evaluate test results and issue a report with interpretation and recommendation for further testing if appropriate.

**THYROGLOBULIN ANTIBODY (ANTITHYROGLOBULIN ANTIBODIES)****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Serology**CPT:** 86800**SRL#:** 8025**Method:** CEI**Reference Range:** 0-40 lu/ml

Included in Thyroid Antibodies Profile (CPT: 86376, 86800).



**THYROID ANTIBODIES PROFILE****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Serology**CPT:** 86376, 86800**SRL#:** 8125**Reference Range:** See individual tests.**Method:** CEI

Test includes TPO Abs and Anti-Thyroglobulin Abs.

**THYROID CASCADE****Frequency/TAT:** Daily**Tube:** Gel**Specimen Required:** 5 ml serum**Lab Section:** Chemistry**CPT:** See below.**SRL#:** 10705**Reference Range:**

TSH 0.35-5.50 mcu/ml

T4 Free 0.9-1.8 ng/dl

T3 Free Total 2.3-4.2 pg/ml

If TSH is normal, no additional testing is performed (CPT: 84443). If TSH is increased, a T4 Free will be performed and separately billed (CPT: 84439). If TSH is decreased, a T4 Free will be performed and separately billed (CPT: 84439). If T4 Free is normal, a T3 Free Total will be performed and separately billed (CPT: 84481). ABN may be required.

**THYROID PEROXIDASE ANTIBODIES (See TPO ANTIBODY)****THYROID REPLACEMENT****Frequency/TAT:** Daily**Tube:** Gel**Specimen Required:** 5 ml serum**Lab Section:** Chemistry**CPT:** See below.**SRL#:** 10706**Reference Range:**

TSH 0.35-5.50 mcu/ml

T4 Free 0.9-1.8 ng/dl

If TSH is normal, no additional testing is performed (CPT: 84443). If TSH is increased, a T4 Free will be performed and separately billed (CPT: 84439). If TSH is decreased, T4 Free will be performed and billed separately (CPT: 84439). ABN may be required.

**THYROID STIMULATING HORMONE (TSH)****Frequency/TAT:** Daily**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 84443**SRL#:** 7250**Reference Range:** 0.35-5.50 mcu/ml

ABN may be required.

**THYROID STIMULATING IMMUNOGLOBULIN (TSI)****Frequency/TAT:** 3-5 days**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 84445**SRL#:** 6636**Reference Range:** < 130% of basal activity**THYROTROPIN RECEPTOR ANTIBODY (LATS)****Frequency/TAT:** T, F**Tube:** Gel**Specimen Required:** 1 ml refrigerate**Lab Section:** Chemistry**CPT:** 83519**SRL#:** 6636**Reference Range:**

Negative &lt; 10 index units

Borderline 10-15 index units

Positive &gt; 15 index units

**THYROXINE BINDING GLOBULIN (TBG)****Frequency/TAT:** T, F**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 84442**SRL#:** 8670**Reference Range:**

&gt; 18 years 13-39 ug/ml

No isotopes should be administered 24 hours prior to venipuncture.

**TITER, ANTIBODY TITER****Frequency/TAT:** Daily**Tube:** Pink**Specimen Required:** 6 ml plasma**Lab Section:** Transfusion Services**CPT:** 86886**SRL#:** 4300 (for inpatient and outpatient), #14022 (for physician offices/nursing homes)**Reference Range:** Negative

Fax request sent to physician office or test can be ordered by physician subsequent to positive IAT.

## TOBRAMYCIN

**Frequency/TAT:** Daily

**Tube:** Gel

**Specimen Required:** 1 ml serum, refrigerate

**Lab Section:** Chemistry

**CPT:** 80200

**SRL#:** 7245

### Reference Range:

Normal Values

Toxic Values

Peak 5-10 mcg/ml > 12 mcg/ml

Trough 0.5-2.0 mcg/ml > 2 mcg/ml

Centrifuge and separate within 1 hour of collection.

Tobramycin peak test (SRL #10550),

Tobramycin trough test (SRL #10549)

## TOCAINIDE

**Frequency/TAT:** 10-14 days

**Tube:** Red

**Specimen Required:** 2 ml serum, room temperature

**Lab Section:** Chemistry

**CPT:** 82491

**SRL#:** 6921

**Reference Range:** 4.0-10.0 ug/ml

**Toxic Value:** > 10.0 ug/ml

## TOFRANIL (See IMIPRAMINE)

## TORCH PROFILE IgG, EIA

**Frequency/TAT:** M-F

**Tube:** Gel

**Specimen Required:** 2 ml serum, refrigerate

**Lab Section:** Serology

**CPT:** 86694

**SRL#:** 13440

**Method:** EIA

Includes Toxoplasma IgG antibody, Rubella IgG antibody, Cytomegalovirus IgG antibody, Herpes I/II IgG antibodies.

## TORCH PROFILE IgM, EIA

**Frequency/TAT:** M-F

**Tube:** Gel

**Specimen Required:** 2 ml serum, refrigerate

**Lab Section:** Serology

**CPT:** 86645, 86762, 86778

**SRL#:** 13271

**Method:** EIA

Includes Toxoplasma IgM antibody, Rubella IgM antibody, Cytomegalovirus IgM antibody, Herpes I/II IgM antibodies.

## TOTAL PROTEIN, SERUM (See PROTEIN TOTAL, SERUM)

## TOTAL PROTEIN, URINE (See PROTEIN TOTAL, URINE)

## TOXOCARA ANTIBODY, ELISA

**Frequency/TAT:** M-F

**Tube:** Gel

**Specimen Required:** 1 ml serum, refrigerate

**Lab Section:** Serology

**CPT:** 83882

**SRL#:** 8679

**Reference Range:** < 1:0 Eu

**Method:** EIA

## TOXOPLASMA AB IgG, EIA

**Frequency/TAT:** M-F

**Tube:** Gel

**Specimen Required:** 1 ml serum, refrigerate

**Lab Section:** Serology

**CPT:** 86777

**SRL#:** 13071

**Reference Range:** 2 IU/ml

**Method:** EIA

## TOXOPLASMA AB IgM, EIA

**Frequency/TAT:** M-F

**Tube:** Gel

**Specimen Required:** 1 ml serum, refrigerate

**Lab Section:** Serology

**CPT:** 86778

**SRL#:** 13259

**Reference Range:** < 0.9 index

**Method:** EIA

## TOXOPLASMA BY PCR

**Frequency/TAT:** M-F

**Tube:** Yellow ACD or EDTA

**Specimen Required:** 5 ml blood or 1 ml amniotic fluid or CSF, room temperature or refrigerate

**Lab Section:** Serology

**CPT:** 87798

**SRL#:** Miscellaneous referral testing

**Reference Range:** Not detected

## TPO ANTIBODY (THYROID PEROXIDASE ANTIBODIES, MICROSOMAL ANTIBODY)

**Frequency/TAT:** M-F

**Tube:** Gel

**Specimen Required:** 1 ml serum, refrigerate

**Lab Section:** Serology

**CPT:** 86376

**SRL#:** 8005

**Reference Range:** 0-34 IU/mL

**Method:** EIA

Included in Thyroid Antibodies Profile (CPT: 86376, 86800).

**TRANSFERRIN**

**Frequency/TAT:** Daily  
**Tube:** Gel  
**Specimen Required:** 2 ml serum, refrigerate  
**Lab Section:** Chemistry  
**CPT:** 84466  
**SRL#:** 8680  
**Reference Range:** 200-400 mg/dl  
 ABN may be required.

**T-TRANSGLUTAMINASE IgA AB (ENDOMYSIAL IgA ANTIBODIES)**

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 2 ml serum  
**Lab Section:** Serology  
**CPT:** 83516  
**SRL#:** 13446  
**Reference Range:** < 1:10  
**Method:** IFA

**TRAZADONE (See DESERYL)****TRICHINELLA ANTIBODY, IgG**

**Frequency/TAT:** 1-5 days  
**Tube:** Gel  
**Specimen Required:** 1 ml serum, refrigerate  
**Lab Section:** Serology  
**CPT:** 86784  
**SRL#:** 8682  
**Reference Range:** < 0.6  
**Method:** EIA

**TRICHOMONAS PREP (See WET PREP FOR TRICHOMONAS, YEAST OR CLUE CELLS)****TRIGLYCERIDE**

**Frequency/TAT:** Daily  
**Tube:** Gel  
**Specimen Required:** 1 ml serum, refrigerate  
**Lab Section:** Chemistry  
**CPT:** 84478  
**SRL#:** 6930  
**Reference Range:**

0-10 years	28-85 mg/dl
11-15 years	33-111 mg/dl
16-19 years	38-143 mg/dl
20 + years	40-149 mg/dl

Patient should be fasting. Hemolysis interferes with the test. If result > 400, a direct LDL will be performed and separately billed. ABN may be required.

**TROPONIN I-SEMI-QUANTITATIVE**

**Frequency/TAT:** Daily, STAT  
**Tube:** Green  
**Specimen Required:** 1 ml serum, refrigerate  
**Lab Section:** STAT Chemistry and POCT  
**CPT:** 84484  
**SRL#:** 10875  
 Test available at Sentara Port Warwick Medical Arts laboratory only. The cutoff for positivity in the assay is 0.15 ng/ml. Elevated levels may indicate myocardial injury as seen in the spectrum of acute coronary syndromes from unstable angina through acute myocardial infarction. Serial determinations are recommended.

**TROPONIN I-QUANTITATIVE**

**Frequency/TAT:** Daily, STAT  
**Tube:** Gel  
**Specimen Required:** 1 ml serum, refrigerate  
**Lab Section:** ER Lab  
**CPT:** 84484  
**SRL#:** 10775  
 Troponin levels greater than or equal to 1.5 are indicative of an acute myocardial infarction.

**TRYPANOSOMA IgG ANTIBODY, IFA**

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 1 ml serum, refrigerate  
**Lab Section:** Serology  
**CPT:** 86753  
**SRL#:** 8683  
**Reference Range:**  
 Trypanosoma IgG AB < 1:16  
**Method:** IFA

**TULAREMIA ANTIBODY**

**Frequency/TAT:** M-F  
**Tube:** Gel  
**Specimen Required:** 1 ml serum, refrigerate  
**Lab Section:** Serology  
**CPT:** 86668  
**SRL#:** 8685  
**Reference Range:** < 1:80  
**Method:** Agglutination

**TYPE AND CROSSMATCH****Frequency/TAT:** Daily**Tube:** Pink**Specimen Required:** 6 ml tube**Lab Section:** Transfusion Services**CPT:** 86850, 86900, 86901, 86920**SRL#:** 4001**Reference Range:** Compatible

Includes an ABO and Rh blood type, an indirect antiglobulin test and the crossmatch for each unit of donor blood ordered. Specimen must be drawn and transfused at a Sentara facility adhering to strict patient and specimen identification procedures. Specimens must be collected no sooner than 3 days before potential transfusion. Exceptions exist, please contact Transfusion Services at (757) 388-2931.

**TYPE AND SCREEN (T&S)****Frequency/TAT:** Daily**Tube:** Pink**Specimen Required:** 6 ml tube**Lab Section:** Transfusion Services**CPT:** 86850, 86900, 86901**SRL#:** 4007 (for inpatient and outpatient), #14018 (for physician offices/nursing homes)

Includes an ABO and Rh blood type and an indirect antiglobulin test. Specimens for pre-surgical procedures must be drawn at a Sentara hospital adhering to strict patient and specimen identification procedures.

**TYPHUS FEVER ANTIBODY PANEL, IFA****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 2 ml serum, refrigerate**Lab Section:** Serology**CPT:** 86757 x 2**SRL#:** 8689**Reference Range:**

Typhus IgG AB &lt; 1:64

Typhus IgM AB &lt; 1:64

**Method:** IFA

This antibody test includes Rickettsia typhiendemic or murine typhus), R. prowazeki and Brill-Zinsser disease caused by reactivation of latent R. prowazeki. A four-fold or greater rise in titer between acute and convalescent specimens is indicative of infection.

**U****UREA NITROGEN, URINE (UUN)****Frequency/TAT:** Daily**Tube:** Urine**Specimen Required:** 10 ml, refrigerate**Lab Section:** Chemistry**CPT:** 84540**SRL#:** 6942**Reference Range:** 12-20 gm/24-hour

10 ml aliquot of a random or timed urine collected without preservative. A 24-hour specimen should be kept cold during collection. Either send the entire 24-hour collection, or note the 24-hour volume.

**URIC ACID****Frequency/TAT:** Daily**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 84550**SRL#:** 6604**Reference Range:**

Male 3.9-9.0 mg/dl

Female 2.2-7.7 mg/dl

Hemolysis, lipemia and bilirubin interfere with the test.

**URIC ACID, URINE****Frequency/TAT:** Daily**Tube:** Urine**Specimen Required:** 10 ml, refrigerate**Lab Section:** Chemistry**CPT:** 84560**SRL#:** 6945**Reference Range:** 250-750 mg/24-hour

10 ml aliquot of a random urine or timed urine collected without preservative. A 24-hour specimen should be kept cold during collection. Either send the entire 24-hour collection, or note the 24-hour volume.

**URINALYSIS****Frequency/TAT:** Daily**Tube:** Urine**Specimen Required:** 5 ml, refrigerate**Lab Section:** Urinalysis and POCT**CPT:** 81003**SRL#:** 17500**Reference Range:**

Specific Gravity	1.003-1.030
pH	4.5 - 8
Protein	Negative/Trace
Glucose	Negative
Ketones	Negative
Occult Blood	Negative
Leukocytes	Negative
Urobilinogen	0.2-1.0 mg/dL
Bilirubin	Negative
Nitrites	Negative

**URINALYSIS WITH MICROSCOPIC****Frequency/TAT:** Daily**Tube:** Urine**Specimen Required:** 5 ml, refrigerate**Lab Section:** Urinalysis**CPT:** 81001**SRL#:** 17510**Reference Range:** See Urinalysis.**URINE REDUCING SUGARS****Frequency/TAT:** Daily**Tube:** Urine**Specimen Required:** 1 ml urine, refrigerate**Lab Section:** Urinalysis**CPT:** 81005**SRL#:** 6161**Reference Range:** Negative**V****VALIUM (See DIAZEPAM)****VALPROIC ACID (See DEPAKANE)****VANCOMYCIN****Frequency/TAT:** Daily**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 80202**SRL#:** 8695**Reference Range:**

Peak 20 - 40 mcg/ml

Trough 10 - 15 mcg/ml

**Critical Range:** > 79.9 ug/ml

Centrifuge and separate serum within 1 hour of collection. Vancomycin Peak Test #: 10545, Vancomycin Trough Test #: 10546.

**VANILLYLMADELIC ACID (VMA)****Frequency/TAT:** M-F**Tube:** Urine**Specimen Required:** 24-hour urine collection**Lab Section:** Chemistry**CPT:** 84585**SRL#:** 8714**Reference Range:** 1.8-6.7 mg/24-hour

Collect a 24-hour urine specimen, add 30 ml 6N HCl to the container prior to collection, and refrigerate during and after collection. Send the entire specimen to the laboratory.

**VARICELLA ANTIBODY IgG, EIA****Frequency/TAT:** M, W, F**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Serology**CPT:** 86787**SRL#:** 8840**Reference Range:** > 20 EU/ml is indicative of immunity**Method:** EIA**VARICELLA ANTIBODY IgM****Frequency/TAT:** M-F**Tube:** Gel**Specimen Required:** 1 ml serum**Lab Section:** Serology**CPT:** 86787**SRL#:** 13635**Reference Range:** < 0.9**Method:** EIA**VARICELLA DNA PCR****Frequency/TAT:** M-F**Tube:** Pink**Specimen Required:** 2 ml EDTA whole blood, refrigerate**Lab Section:** Serology**CPT:** 87798**SRL#:** 13372**Reference Range:** Not detected**Method:** PCR**VARICELLA DNA PCR FLUIDS****Frequency/TAT:** M-F**Tube:** Sterile container**Specimen Required:** 1 ml minimum CSF, urine, various fluids**Lab Section:** Serology**CPT:** 87798**SRL#:** 13378**Reference Range:** Not detected**Method:** PCR

**VARICELLA ZOSTER CULTURE (VZV)****Frequency/TAT:** M-F**Tube:** Sterile container**Specimen Required:** CSF, vesicular fluid or vesicular scrapings.**Lab Section:** Microbiology**CPT:** 87254**SRL#:** 16217

All other specimens in UTM-RT (for viruses, chlamydia, mycoplasma and ureaplasma media) or for blood submit 2 green top sodium heparin tubes. Do not centrifuge. Store and transport refrigerated. Do not use swabs with wooden sticks.

**VASOINTESTINAL PEPTIDE (VIP, VASOACTIVE INTESTINAL POLYPEPTIDE)****Frequency/TAT:** M, W**Tube:** Lavender**Lab Section:** Chemistry**CPT:** 84586**SRL#:** 8698**Reference Range:** 23.0-63.0 pg/ml

Collect blood in chilled lavender (EDTA) tube. Transfer to red top containing 0.5 ml Trasylol solution (10,000 KIU/ml). Mix well, centrifuge, and transfer plasma into specially labeled transport tube and freeze. Send specimen to laboratory frozen. Call Client Services at (757) 388-3621 if collection kit needed.

**VASOPRESSIN (See ANTIDIURECTIC HORMONE)****VDRL, CSF****Frequency/TAT:** M, W, F**Tube:** CSF**Specimen Required:** 2 ml CSF, refrigerate**Lab Section:** Serology**CPT:** 86592**SRL#:** 8130**Reference Range:** Non-reactive

Test will be titrated if reactive.

**VIRAL CULTURE, COMPREHENSIVE (See CULTURE, VIRAL COMPREHENSIVE)****VISCOSITY, SERUM****Frequency/TAT:** Daily, STAT**Tube:** Red**Specimen Required:** 5 ml serum, room temperature.**Lab Section:** STAT Chemistry and POCT**CPT:** 85810**SRL#:** 6182**Reference Range:** 1.6-1.9**VITAMIN A****Frequency/TAT:** 3-7 days**Tube:** Gel**Specimen Required:** 2 ml serum, freeze and protect from light**Lab Section:** Chemistry**CPT:** 84590**SRL#:** 8711**Reference Range:** 30-90 ug/dl

Patient must fast a minimum of 8 hours. No food containing Vitamin A or carotene should be ingested in the previous 48 hours by patients older than 6 months or 24 hours for patients younger than 6 months. Draw specimen in chilled gel tube, keep specimen on ice. Wrap the tube in foil to protect from light immediately after collection and during transport.

**VITAMIN B1 (See THIAMINE, WHOLE BLOOD)****VITAMIN B2 (RIBOFLAVIN)****Frequency/TAT:** 3-7 days**Tube:** Green**Specimen Required:** 7 ml whole blood, frozen**Lab Section:** Chemistry**CPT:** 84252**SRL#:** 8710**Reference Range:** 0.90-1.15 act. coef., > 1.30

suggests possible Riboflavin deficiency  
Wrap specimen in foil immediately after collection to protect from light. Transport the specimen on ice.

**VITAMIN B6 (PYRIDOXAL 5-PHOSPHATE)****Frequency/TAT:** T, F**Tube:** Lavender**Specimen Required:** 1 ml plasma, freeze**Lab Section:** Chemistry**CPT:** 84207**SRL#:** 8712**Reference Range:**

Male 5.3-46.7 ng/ml

Female 2.0-32.8 ng/ml

Wrap the entire tube in foil to protect from light immediately after collection and during transport. Keep the specimen on ice and separate plasma from red cells immediately.

**VITAMIN B12****Frequency/TAT:** Daily**Tube:** Gel**Specimen Required:** 1 ml serum, refrigerate**Lab Section:** Chemistry**CPT:** 82607**SRL#:** 7255**Reference Range:** 211-911 pg/ml