Laboratory Test Menu

HSHS St. Mary's Hospital

Thank you for choosing HSHS St. Mary's Hospital Laboratory. This catalog contains information pertaining to the most commonly ordered laboratory tests. This laboratory has several resources to obtain services for laboratory testing not contained in this catalog. Use the following contact information to receive the most up to date information.

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Hours of operation:	Inpatient:	Sunday-Saturday	24 Hours
	Outpatient:	Monday-Friday	0530-1900
		Saturday	0700-1100

This clinical laboratory strives to use the most current instrumentation and technology available. Due to the differences among manufacturers and methods, similar test assay results performed at other institutions may not be comparable. Please consider these differences when reviewing patient results as this may play a crucial role in the diagnosis and care of the patient.

STAT ELIGIBLE- Results post within a one-hour turn-around-time.

ROUTINE-Most results post in 2-4 hours.

TEST NAME	SPECIMEN REQUIREMENTS/ VACUUM TUBE SELECTION	SPECIMEN COLLECTION INSTRUCTIONS
ABG COMPLETE ARTERIAL BLOOD GASSES	Collect blood into a plain syringe for immediate testing at the patient's bedside. A lithium heparin anticoagulant syringe may also be used.	Immediately remove any air drawn into the syringe. Mix the sample for 20 – 30 seconds by rolling the syringe vigorously between the palms in two different directions. Note: if not tested immediately, remix the sample before testing.
ABG / CAPILLARY BLOOD GASES ARTERIAL BLOOD GASSES	Collect blood into a plain syringe for immediate testing at the patient's bedside. a. A lithium heparin anticoagulant syringe may also be used.	Immediately remove any air drawn into the syringe. Mix the sample for 20 – 30 seconds by rolling the syringe vigorously between the palms in two different directions. Note: if not tested immediately, remix the sample before testing.
ABG/ ELECTROLYTES WITH GLUCOSE and LACTATE ARTERIAL BLOOD GASSES	Collect blood into a plain syringe for immediate testing at the patient's bedside. a. A lithium heparin anticoagulant syringe may also be used.	Immediately remove any air drawn into the syringe. Mix the sample for 20 – 30 seconds by rolling the syringe vigorously between the palms in two different directions. Note: if not tested immediately, remix the sample before testing.
ABG/ FETAL BLOOD GASES (CORD SAMPLES) ARTERIAL BLOOD GASSES	Collect blood into a plain syringe for immediate testing at the patient's bedside. a. A lithium heparin anticoagulant syringe may also be used.	Immediately remove any air drawn into the syringe. Mix the sample for 20 – 30 seconds by rolling the syringe vigorously between the palms in two different directions. Note: if not tested immediately, remix the sample before testing.
BLOOD GAS, MIXED VENOUS ARTERIAL BLOOD GASSES	Collect blood into a green top tube, plain syringe or lithium heparin syringe.	Immediately remove any air drawn into the syringe. Mix the tube or syringe for 20 – 30 seconds by inverting the tube or rolling the syringe. Note: if not tested immediately, remix the sample before testing.
BLOOD GAS, VENOUS, W/ LACTATE	Collect blood into a green top tube, plain syringe or lithium heparin syringe.	Immediately remove any air drawn into the syringe. Mix the tube or syringe for 20 – 30 seconds by inverting the tube or rolling the syringe. Note: if not tested immediately, remix the sample before testing.
ABO/RH BLOOD GROUP (Type)	Pink top tube stored at 2-8°C.	

TEST NAME	SPECIMEN REQUIREMENTS/ VACUUM TUBE SELECTION	SPECIMEN COLLECTION INSTRUCTIONS
ABSOLUTE NEUTROPHIL	Correctly filled 4 mL EDTA Lavender	Specimen cannot be clotted.
ACETAMINOPHEN	4 mL GREEN PST or RED/ SST serum or plasma (sodium or lithium heparin).	Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection
ACETONE B-Ketones in Blood Using Abbott Meter	Use only fresh whole blood samples -- **Venous Blood Sample**: 1. Collect the venous blood tube containing heparin or EDTA. 3. Make •sure that the tube is filled to the stated volume. Do not under fill. Do not use collection tubes that contain fluoride or oxalate. 4. From an intravenous line, clear the line and draw into a heparinized syringe. Use the sample within 30 minutes of collection.	
ALBUMIN	4 mL GREEN PST or RED/ SST serum or plasma (lithium heparin).	Serum and plasma can be collected using recommended procedures for collection of diagnostic blood specimens by venipuncture.
ALBUMIN/GLOBULIN RATIO, A/G ratio	4 mL GREEN PST or RED/ SST serum or plasma (lithium heparin).	Serum and plasma can be collected using recommended procedures for collection of diagnostic blood specimens by venipuncture.
ALBUMIN, FLUID	Cup, syringe, vacuum bottle, clean, dry, and clearly labeled container. (dependent on specimen and collection method)	REFRIGERATE Cap tight and double bagged
ALCOHOL, ETHYL	4 mL GREEN PST Or RED/ SST	Use non-alcohol germicidal solution to cleanse the skin. The tube should be filled and stored refrigerated until analyzed. Specimens may be stored tightly closed and refrigerated at 2–8 °C for up to 3 days Freeze for longer storage.
ALKALINE PHOSPHATASE (ALP)	4 mL GREEN PST or RED/ SST serum and plasma (lithium heparin). which are turbid must be clarified by centrifugation prior to testing.	Serum: Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection and are stable for 8 hours at room temperature, 7 days at 2 – 8 °C and 6 months when frozen at -20 °C or colder. Avoid repeated freezing and thawing.
ALANINE	4 mL GREEN PST	Serum: Complete clot formation before

TEST NAME	SPECIMEN REQUIREMENTS/ VACUUM TUBE SELECTION	SPECIMEN COLLECTION INSTRUCTIONS
AMINOTRANSFERASE (ALT)	or RED/ SST Recommended specimen types: serum and plasma (lithium heparin).	centrifugation. Serum or plasma should be separated from cells within two hours of collection and are stable for 7 days at 2 – 8 °C, frozen for 1 month at -20 °C or colder. Avoid repeated freezing and thawing.
AMMONIA	Correctly filled 4 mL EDTA Lavender Recommended specimen type(s): Plasma	The tube should be filled, stored tightly capped on ice and centrifuged without delay. Samples should be analyzed within 30 minutes of collection and are stable for 2 hours at 2 – 8°C.
AMYLASE	4 mL GREEN PST or RED/ SST Recommended specimen types: serum, plasma (lithium heparin).	Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection and are stable for 7 days at room temperature and six months at 2 to 8 °C, longer if frozen at -20 °C or colder.
AMYLASE, Fluid	Cup, syringe, vacuum bottle, clean, dry, and clearly labeled container. (dependent on specimen and collection method)	REFRIGERATE Cap tight and double bagged
AMYLASE, URINE- 24- Hour Urine	Aliquot of a well-mixed 24-hour urine collection in a Clean, dry, and clearly labeled container	Urine amylase is unstable in acid urine. Adjust urine to a pH of 7.0 then store refrigerated. Albumin must be added to all urine specimens to maximize amylase activity. The final albumin concentration in urine should be at least 3.0 g/dL (30 g/L).
	Patient Preparation: SEE URINE Chemistry- 24 hour for detailed collection instructions.	
ANA- ANTINUCLEAR ANTIBODY	SST Or Gold/ RED Minimum 1 ML serum	Specimen Stability Room temperature: 4 days Refrigerated: 7 days Frozen: 30 days Gross hemolysis • Grossly lipemic • Microbial contamination may interfere
ANION GAP	4 mL GREEN PST Or RED/ SST Recommended specimen types: serum and plasma (lithium heparin).	Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection and are stable for 3 days at 20 – 25 °C, 7 days at 2 – 8 °C. For longer storage, specimens may be frozen at -20 °C or colder for 1 month. Hemolyzed samples should not be used.

TEST NAME	SPECIMEN REQUIREMENTS/ VACUUM TUBE SELECTION	SPECIMEN COLLECTION INSTRUCTIONS
ANTI-XA, **Heparin** LMW	Fill 90-100%-2.7 mL Light blue top (Na Citrate)	Freshly drawn venous blood collected into a sodium citrate tube that must be at least 90% full. Short draws or clotted specimens MUST be redrawn. Test within 4 hours of collection or within 24 hours the plasma must be removed and frozen.
ANTI-XA, Heparin UNF,	Fill 90-100%-2.7 mL Light blue top (Na Citrate)	Freshly drawn venous blood collected into a sodium citrate tube that must be at least 90% full. Short draws or clotted specimens MUST be redrawn. Test within 4 hours of collection or within 24 hours the plasma must be removed and frozen.
ANTIBODY IDENTIFICATION & TITER	Correctly filled 4 pink top tubes	Antibody identification must be positive for a titer to be performed.
APTT -PARTIAL THROMBOPLASTIN TIME, ACTIVATED	Fill 90-100%-2.7 mL Light blue top (Na Citrate) Short draws or clotted specimens MUST be redrawn.	Testing done < **4 hours** of collection. Keep tube at room temperature, do not open, do not spin.
ASPARTATE AMINOTRANSFERASE (AST)	4 mL GREEN PST or RED/ SST Recommended specimen types: serum and plasma (lithium heparin).	Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection and are stable for 3 days at 20 – 25 °C, 7 days at 2 – 8 °C. For longer storage, specimens may be frozen at -20 °C or colder for 1 month. Hemolyzed samples should not be used.
BASIC METABOLIC PANEL BMP Glucose, BUN, Creatinine, Sodium, Potassium, Chloride, CO2, Calcium, Anion Gap BUN/Creat Ratio, GFR, GFRAA	4 mL GREEN PST Or RED/ SST Recommended specimen types: serum and plasma (lithium heparin).	Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection and are stable for 3 days at 20 – 25 °C, 7 days at 2 – 8 °C. For longer storage, specimens may be frozen at -20 °C or colder for 1 month. Hemolyzed samples should not be used.
β-HUMAN CHORIONIC GONADOTROPIN QUALITATIVE, (β-hCG, BHCG, Pregnancy Test)	Clean, dry, and clearly labeled container	First morning urine

TEST NAME	SPECIMEN REQUIREMENTS/ VACUUM TUBE SELECTION	SPECIMEN COLLECTION INSTRUCTIONS
β-HUMAN CHORIONIC GONADOTROPIN QUANTITATION, (β-hCG, BHCG, NON-PREG.)	Recommended specimen types: Serum	Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection and are stable for 3 days at 20 – 25 °C, 7 days at 2 – 8 °C. For longer storage, specimens may be frozen at -20 °C or colder for 1 month.
BETKE-KLEIHAUER (Rosette, Fetal Maternal Hemorrhage)	Correctly filled 4 mL EDTA Lavender	Maternal blood collected with EDTA. Samples should be stored at 2-8 °C until assayed and are stable for 14 days
BILIRUBIN, FLUID	Cup, syringe, vacuum bottle, clean, dry, and clearly labeled container. (dependent on specimen and collection method)	REFRIGERATE Cap tight and double bagged Protect from light
BILIRUBIN, DIRECT	4 mL GREEN PST or RED/ SST Recommended specimen types: serum and plasma (lithium heparin and EDTA).	Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection Bilirubin is extremely photosensitive. Protect sample from both daylight and fluorescent light to avoid photodegradation. Samples should be stored at 4 °C and analyzed within 5 days.
BILIRUBIN, INDIRECT	4 mL GREEN PST or RED/ SST Recommended specimen types: serum and plasma (lithium heparin and EDTA).	Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection. Bilirubin is extremely photosensitive. Care should be taken to protect sample from both daylight and fluorescent light to avoid photodegradation. Samples stored at 4 °C and analyzed within 5 days. Samples may be frozen at -20 °C or colder for up to 6 months.
BILIRUBIN, TOTAL	4 mL GREEN PST	Complete clot formation before

TEST NAME	SPECIMEN REQUIREMENTS/ VACUUM TUBE SELECTION	SPECIMEN COLLECTION INSTRUCTIONS
	or RED/ SST Recommended specimen types: serum and plasma (lithium heparin and EDTA).	centrifugation. Serum or plasma should be separated from cells within two hours of collection. Bilirubin is extremely photosensitive. Care should be taken to protect sample from both daylight and fluorescent light to avoid photodegradation. Samples stored at 4 °C and analyzed within 5 days. Samples may be frozen at -20 °C or colder for up to 6 months.
BLOOD FILM EXAMINATION (Smear)	Correctly filled 4 mL EDTA Lavender	Whole blood not clotted.
BLOOD GROUP (Type) and PRENATAL ANTIBODY SCREEN	Correctly filled 4 pink top tubes	If applicable: Write patient's full name, date of birth, medical record number and blood band sticker on the sample.
BLOOD GROUP AND ANTIBODY SCREEN (Type and Screen)	Correctly filled 4 pink top tubes and patient must be armbanded	Patient requires bloodbank armbanding
BLOOD GROUP AND ANTIBODY SCREEN, CROSSMATCH	Correctly filled 4 pink top tubes and patient must be armbanded	Patient requires bloodbank armbanding
BLOOD UREA NITROGEN (BUN)	4 mL GREEN PST Or RED/ SST Recommended specimen types: serum, plasma (lithium heparin)	Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection. Blood urea nitrogen is stable in separated serum or plasma at room temperature for 3-5 days, 7 days at 4 °C and indefinitely at -20 °C.
BNP---NT-Pro BNP N-Terminal Pro–B-Type Natriuretic Peptide	4 mL GREEN PST	Samples are stable for three days when stored at 20 – 25 °C or at 2 – 8 °C or for 12 months when frozen at -20 °C or below.

TEST NAME	SPECIMEN REQUIREMENTS/ VACUUM TUBE SELECTION	SPECIMEN COLLECTION INSTRUCTIONS
		Repetitive freezing and thawing of specimens should be avoided.
CALCIUM	4 mL GREEN PST Or RED/ SST Recommended specimen types: serum, plasma (lithium heparin, sodium heparin), urine. months.	Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection. Serum or plasma should be analyzed promptly or stored at 4 °C for several days. Samples may be frozen at -20 °C for 6 months.
CALCIUM, IONIZED	Collect blood into a green top tube, sodium heparin	
CALCIUM, 24- hour Urine	Aliquot of a well-mixed 24-hour urine collection in a Clean, dry, and clearly labeled container **Patient Preparation**: SEE URINE Chemistry- 24 hour for detailed collection instructions	Urine specimens should be collected in 20–30 mL of 6M HCL per 24-hour specimen (1–2 mL for a random specimen) to prevent calcium salt precipitation. EXPECTED VALUE 100–321 mg/24 hours
CARBAMAZEPINE (Tegretol)	4 mL GREEN PST Or RED/ SST Recommended specimen types: serum or plasma (lithium heparin).	Note last dose Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection
	Patient Preparation: SEE URINE Chemistry- 24 hour for detailed collection instructions	
CBC--COMPLETE BLOOD COUNT W/ DIFFERENTIAL- WBC, RBC, HGB, HCT,MCV, MCH, MCHC, RDW, PLT, MPV, Neut %, Baso %, Eos %, Lymph %, Mono %, Imm gran%	Correctly filled 4 mL EDTA Lavender Short draws or clotted specimens MUST be redrawn.	Testing done <24 hours-REFRIGERATE
CBC--COMPLETE BLOOD COUNT WITHOUT DIFFERENTIAL	Correctly filled 4 mL EDTA Lavender Short draws or clotted specimens MUST be redrawn.	Testing done <24 hours-REFRIGERATE

TEST NAME	SPECIMEN REQUIREMENTS/ VACUUM TUBE SELECTION	SPECIMEN COLLECTION INSTRUCTIONS
CEA--CARCINOEMBRYONIC ANTIGEN	Recommended specimen types: serum Samples and controls stabilized with sodium azide cannot be used.	Samples should be stored at 4 °C and analyzed within one week. For longer storage, samples may be frozen at -20 °C or colder for 4 months.
CELL COUNT, BODY FLUID	Cup, syringe, vacuum bottle, clean, dry, and clearly labeled container. (dependent on specimen and collection method)	REFRIGERATE Cap tight and double bagged
CHLORIDE	4 mL GREEN PST Or RED/ SST Recommended specimen types: serum, plasma (lithium).	Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection
CHLORIDE 24-HOUR URINE	Aliquot of a well mixed 24-hour urine collection in a Clean, dry, and clearly labeled container **Patient Preparation**: SEE URINE Chemistry- 24 hour for detailed collection instructions	Twenty-four-hour urine collection for chloride should be made without preservatives. Store at 2–8 °C or frozen for delayed analysis EXPECTED VALUE 110–250 mmol/24 hour
CHLORIDE, Urine	Clean, dry, and clearly labeled container	REFRIGERATE Cap tight and double bagged
	Patient Preparation: SEE URINE Chemistry- 24 hour for detailed collection instructions	
CHOLESTEROL	4 mL GREEN PST Or RED/ SST Recommended specimen types: serum and plasma (lithium heparin).	Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection and is stable for 5–7 days at 4 °C, 3 months at -20 °C, and years at -70 °C.
CHOLESTEROL CHOLESTEROL, BODY Fluid	**Patient Preparation**: Physician may request 8-12 hour fast. Cup, syringe, vacuum bottle, clean, dry, and clearly labeled container. (dependent on specimen and collection method)	Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection and is stable for 5–7 days at 4 °C, 3 months at -20 °C, and years at -70 °C. REFRIGERATE Cap tight and double bagged
	Patient Preparation: Physician may request 8-12 hour fast.	
CKMB, CREATINE KINASE-MB ISOENZYME (Creatine Kinase MB)	4 mL GREEN PST or RED/ SST Recommended specimen types: serum, plasma (lithium and sodium heparin). Samples and controls stabilized with azide cannot be used.	Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection and stored at room temperature for 12 hours, at 4 ºC for 3 days and at -20 ºC for 1 month.

TEST NAME	SPECIMEN REQUIREMENTS/ VACUUM TUBE SELECTION	SPECIMEN COLLECTION INSTRUCTIONS
C. DIFF QUIK CHEK COMPLETE	Raw, unformed stool sent in a clean airtight, leak-proof container.	Testing specimens as soon as possible is recommended (within 24 hours). Store specimens at 2-8°C for up to 72 hours prior to testing. Specimens can be stored frozen (≤ - 10°C) for periods longer than 72 hours. Freezing and thawing multiple times may result in loss of specimen activity due to toxin degradation.
CO2- CARBON DIOXIDE	4 mL GREEN PST Or RED/ SST Recommended specimen types: serum and plasma (lithium heparin).	Complete clot formation before centrifugation. Centrifugation of the blood in the unopened tube. Total carbon dioxide concentration may be decreased by 6 mmol/L when uncapped specimens are exposed to the air for one hour. Underfilling of vacutainers may account for low total carbon dioxide results of up to 3 mmol/L.
CMP- COMPREHENSIVE METABOLIC PANEL Glucose, BUN, Creatinine, Sodium, Potassium, Chloride, CO2, Calcium, Total Bilirubin, Total Protein, Albumin, AST, ALT, Alk. Phosphatase, Anion Gap BUN/Creat. Ratio, GFR, GFRAA	4 mL GREEN PST or RED/ SST Recommended specimen types: serum and plasma (lithium heparin).	Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection.
CORTISOL- A.M./P.M	Serum/ RED/ SST	Always keep tubes stoppered and upright. Do not use samples that have been stored at room temperature for longer than 8 hours. Tightly cap and refrigerate specimens at 2–8°C for 8 hours. Freeze samples -20°C for 48 hours. Freeze samples only once and mix thoroughly after thawing.
CORTISOL- 24-hour Urine	Aliquot of a well mixed 24-hour urine collection in a Clean, dry, and clearly labeled container **Patient Preparation**: SEE URINE Chemistry- 24 hour for detailed collection instructions	Collect urine into a clean container that has either no preservative or 10 grams of boric acid per liter of urine. Tightly cap and refrigerate specimens at 2–8°C for 8 hours. If the assay is not completed within 48 hours, freeze samples at or below -20°C. Urine specimens can remain frozen for up to 1

TEST NAME	SPECIMEN REQUIREMENTS/ VACUUM TUBE SELECTION	SPECIMEN COLLECTION INSTRUCTIONS
		month in non-frost-free freezers EXPECTED VALUE **Cortisol, Free, 24-Hour Urine** **Adult-** 4.0-50.0 mcg/24 Pediatric- Varies by age
CORTROSYN STIMULATION TEST (ACTH STIMULATION COSYNTROPIN)	RED/ SST	A baseline cortisol will be collected
	Patient Preparation: INPATIENT CORTROSYN STIMULATION TEST 1. Nursing service will administer 0.25 mg/ml of Cortrosyn IV Push intramuscularly. 3. 30-minute (CRT30) & 60-minute (CRT60) minute cortisols as timed draws. B. OUTPATIENT CORTROSYN STIMULATION TEST 1. Draw a baseline (serum) specimen for a cortisol level prior to the injection of Cortrosyn. 2. Infusion Services will administer 0.25 mg/ml Cortrosyn intramuscularly 3. 30-minute (CRT30) & 60-minute (CRT60) cortisols as timed draws	
CREATINE KINASE (CK)	4 mL GREEN PST Or RED/ SST Recommended specimen types: serum and plasma (lithium heparin).	Complete clot formation before centrifugation. Serum or plasma separated from cells within two hours of collection and are kept at 2 – 8 °C and analyzed within 7 days. frozen at -20 °C or colder up to 29 days. Minimum Sample Volume: 5.9 µL
	Patient Preparation: INPATIENT CORTROSYN STIMULATION TEST 1. Nursing service will administer 0.25 mg/ml of Cortrosyn IV Push intramuscularly. 3. 30-minute (CRT30) & 60-minute (CRT60) minute cortisols as timed draws. B. OUTPATIENT CORTROSYN STIMULATION TEST 1. Draw a baseline (serum) specimen for a cortisol level prior to the injection of Cortrosyn. 2. Infusion Services will administer 0.25 mg/ml Cortrosyn intramuscularly 3. 30-minute (CRT30) & 60-minute (CRT60) cortisols as timed draws	
C-REACTIVE PROTEIN	4 mL GREEN PST Or SST Recommended specimen types: serum or heparinized plasma.	Complete clot formation before centrifugation. Serum or plasma separated from cells within two hours of collection. Samples should be as fresh as possible (stored for no more than seven days at 2 - 8 °C) or stored frozen -20 °C for up to eight months if they are frozen within 24 hours after collection and if repeated freeze-thaw cycles are avoided.
C-REACTIVE PROTEIN-HIGH SENSITIVITY	4 mL GREEN PST Or SST Recommended specimen types: serum and plasma (lithium heparin).	Complete clot formation before centrifugation. Serum or plasma separated from cells within two hours of collection. Samples should be as fresh as possible - stored for no more than seven days at 2 - 8 °C or stored frozen -20 °C for up to eight

TEST NAME	SPECIMEN REQUIREMENTS/ VACUUM TUBE SELECTION	SPECIMEN COLLECTION INSTRUCTIONS
		months if they are frozen within 24 hours after collection.
CREATININE	4 mL GREEN PST Or RED/ SST Recommended specimen types: serum and plasma (lithium heparin).	Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection and is stable for 24 hours at room temperature, 7 days at 2—8° C. frozen for up to 3 months at -20° C or colder.
CREATININE, Urine	2 ml Clean, dry, and clearly labeled container	Specimens previously preserved with 6N HCl or Boric Acid are acceptable. Urines (random or 24 hour collections) should be stored at 2— 8° C and analyzed within 4 days. Freeze for longer storage.
CREATININE, 24-Hour Urine	Aliquot of a well mixed 24 hour urine collection in a Clean, dry, and clearly labeled container **Patient Preparation**: SEE URINE Chemistry- 24 hour for detailed collection instructions	Specimens previously preserved with 6N HCl or Boric Acid are acceptable. b. Urines (random or 24 hour collections) should be stored at 2— 8° C and analyzed within 4 days. Freeze for longer storage. EXPECTED VALUE Female 11.0-20.0 mg/kg/24 hour Male 14.0-26.0 mg/kg/24 hour
CREATININE CLEARANCE- Creat. Urine, Creat. Blood, Body Surface area	Aliquot of a well mixed 24 hour urine collection in a Clean, dry, and clearly labeled container. 4 mL GREEN PST Or RED/ SST Recommended specimen types: serum and plasma (lithium heparin).	Document the height and weight of patient A 24 hour urine specimen is collected A serum specimen is collected anytime during the 24 hours prior to start of collection and up to 24 hours after end of collection period.
	Patient Preparation: SEE URINE Chemistry- 24 hour for detailed collection instructions	
CREATININE, Fluid	Cup, syringe, vacuum bottle, clean, dry, and clearly labeled container. (dependent on specimen and collection method)	REFRIGERATE Cap tight and double bagged
CRYSTAL- BODY FLUID Identification	Cup, syringe, vacuum bottle, clean, dry, and clearly labeled container. (dependent on specimen and collection method)	Cap tight and double bagged
CSF--CEREBRAL	Collected in spinal fluid tubes.	Use physician specified tube for Hematology

TEST NAME	SPECIMEN REQUIREMENTS/ VACUUM TUBE SELECTION	SPECIMEN COLLECTION INSTRUCTIONS
SPINAL FLUID-Cell Count		studies, or use tube #3, per lab protocol. Clotted specimens are not acceptable.
CSF--CEREBRAL SPINAL FLUID-GLUCOSE	Normal procedures for collecting cerebrospinal fluid may be used for samples to be analyzed by this method	Remaining cerebrospinal fluid specimens should be refrigerated or frozen.
CSF--CEREBRAL SPINAL FLUID-PROTEIN	Normal procedures for collecting cerebrospinal fluid may be used for samples to be analyzed by this method.	CSF specimens collected with care to avoid contamination with plasma proteins. Blood present in the CSF invalidates the protein values due to contamination with plasma proteins. Remaining CSF specimens should be refrigerated or frozen.
CHLAMYDIA OR NEISSERIA GONORRHEA DNA PROBES BY PCR (CT DETECTION TMA RNA) (may use one specimen for CT and GC detection)	**Patient Preparation**: **FEMALES: ENDOCERVIX and MALE URETHRAL SPECIMENS**: Use APTIMA Unisex Swab Specimen Collection Kit. Directions for collection are found on the collection kit package. NOTE: Some spermicidal agents and feminine powder sprays interfere and should not be used prior to collection of swab specimens. **URINE SPECIMENS: (MALES AND FEMALES**) Do not urinate for at least two hours prior to specimen collection. Collect the first 10-50 mL of urine stream into a leak-proof sterile plastic screw-capped container. Refrigerate. Transport in a separate zip-lock bag. Specimens are to be transferred to an APTIMA Urine Collection Kit within 24 hours of initial collection. The collection tube must be filled between the two black lines on the tube. Do not cover the lines with the patient label. Under or overfilled specimens will be rejected. Place specimen in a ziplock bag (one specimen per bag). The specimen may be refrigerated or left at room temperature before being packaged for shipment.	2-4 days EXPECTED VALUE Negative

TEST NAME	SPECIMEN REQUIREMENTS/ VACUUM TUBE SELECTION	SPECIMEN COLLECTION INSTRUCTIONS
CULTURE, ACID FAST BACILLI	**BRONCHIAL WASH**: Collect at least 3 mL of bronchial washings into a leak-proof sterile plastic screw-capped container or submit a bronchial brush in a leak-proof sterile plastic screw-capped container with sterile saline Refrigerate. **CSF**: Collect 1mL CSF (minimum) in a leak-proof sterile plastic screw-capped container. Refrigerate. **GASTRIC WASHINGS**: Collect 5-10 mL of fasting early morning specimen in a leak-proof sterile plastic screw-capped container, containing 100 mg of sodium carbonate (obtained from the laboratory). Refrigerate. **SPUTUM**: For routine sputum specimens, collection in the early morning is recommended. The patient should gargle with water before collection. The most suitable specimen is the expectoration obtained after a deep cough. Collect entire specimen in a leak-proof sterile plastic screw-capped container. Three consecutive early morning specimens are recommended. Refrigerate. **URINE**: Collect first morning urine specimen, up to 50 mL, in a leak-proof sterile plastic screw-capped container. Refrigerate. **BONE MARROW**: Collect as much specimen as possible in a BD BACTEC MYCO/F – Lytic bottle (supplied by Quest). Transport at room temperature. **BODY FLUIDS**: Submit at least 10-15 mL in a leak-proof sterile plastic screw-capped container. Transport bloody specimens or specimens likely to clot in a green (heparin) top tube. Refrigerate. **TISSUE BIOPSY SAMPLE**: Submit tissue in a leak-proof sterile plastic screw-capped container with sterile saline. Refrigerate. **SKIN LESION MATERIAL**: Submit a biopsy specimen in a leak-proof sterile plastic screw-capped container with sterile saline. Refrigerate. Swabs in transport medium are acceptable only if biopsy material or an aspirate is not obtainable. Refrigerate. **CUTANEOUS ULCER:** collect biopsy sample from periphery of the lesion or aspirate material from ulcer margin of lesion. If infection was acquired in Africa, Australia, Mexico, South America, Indonesia, New Guinea or Malaysia, note on request as Mycobacterium ulcerans may require prolonged incubation.	
CULTURES, AEROBIC	**AEROBIC CULTURE SWAB TRANSPORT**: 1. The system (Culturette) consists of rayon swabs in a capped plastic tube containing a sponge moistened with modified liquid Stuart's media. 2. After collection, plunge the swab into the transport medium to prevent drying and cap the tube. Transport refrigerated.	

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CULTURE, ANAEROBIC	Specimens from the following sites are **acceptable** for anaerobic culture when submitted in appropriate anaerobic transport media. **Transtracheal aspirations**, **Suprapubic urines**, **Genital specimens from cul-de-sac aspiration**, **cordocentesis, percutaneous aspiration, placenta, fallopian tube, septic abortion, or prostatic or seminal fluid, Surgical specimens, Aspirates from deep wounds or abscesses. Body fluids that are normally sterile.** **ANAEROBIC TRANSPORT FOR FLUID SPECIMENS:** Fluid specimens may be collected in aspirate bottles (ie. pleural fluid), aliquoted into sterile screw-top containers or sent in a capped syringe. Transport at room temperature. **ANAEROBIC TRANSPORT FOR TISSUE SPECIMENS**: Tissues placed in sterile screw-top containers and hand carried to the Microbiology Lab. Small tissue samples may be moistened with sterile saline. Transport at room temperature. **ANAEROBIC TRANSPORT CULTURE SWAB**: Submit culture swab specimens only when more suitable fluid aspirates or tissue margins are not obtainable. The anaerobic culture swab transport system (culturette) consists of rayon swabs in a capped plastic tube containing modified Amies gel media. After collection, plunge the swab into the gel transport media to prevent drying and cap the tube. This transport system for aerobic and anaerobic organisms. Transport at room temperature.	
CULTURE, BLOOD	Use 2 bottle set of blood cultures or Pediatric Bactec Bottle (2 sets of Blood cultures require different sights for each set)	
CULTURE, BODY FLUID W/GRAM STAIN	• • Sterile cup, syringe, vacuum bottle, swab, and clearly labeled container. (dependent on specimen and collection method) Do Not Refrigerate. Call Microbiology prior to collection at 618-234-2120 Ext 21214	Preliminary-24 hours/ Five days
CULTURE, BONE MARROW W/ GRAM STAIN	Sterile cup, syringe, vacuum bottle, swab, and clearly labeled container.	
CULTURE, QUANTITATIVE BRONCHIAL ALVEOLAR LAVAGE	5-10 mL of lavage samples from a clinician performed BAL or respiratory therapist collected mini-BAL. No volume will be rejected. Specimens must be submitted in a sterile	Preliminary-24 hours/ Final-2 days EXPECTED VALUE No Growth

TEST NAME	SPECIMEN REQUIREMENTS/ VACUUM TUBE SELECTION	SPECIMEN COLLECTION INSTRUCTIONS
	container with no preservative and transported to the lab as soon as possible after collection. Specimens may be stored at 2-8°C	
CULTURE, QUANTITATIVE BRONCHIAL BRUSH	Bronchial brushes received in a sterile tube containing 1.0 mL sterile saline. (Sterile tubes containing 1.0 mL of sterile saline are supplied to the physician by the laboratory	
CULTURE, CATHETER TIP	2-3-inch portion of the terminal end of the vascular catheter in sterile container. Use sterile equipment and aseptic technique to collect specimens to prevent the introduction of microorganisms during invasive procedures. Identify the specimen source and/or specific site correctly so that the proper culture media, identification and susceptibility protocols will be used	
CULTURE, CSF--CEREBRAL SPINAL FLUID W/ GRAM STAIN	For microbiological analysis, the second tube drawn should be submitted. Transport at room temperature. Do **not** refrigerate. Follow standard collection procedures and submit a separate leak-proof sterile screw-capped tube containing at least 1 mL of aseptically collected cerebrospinal fluid.	
CULTURE, EAR	**EAR**: Fluid received in a sterile container or anaerobic transport vial. Culturette containing aerobic or anaerobic transport media.	
CULTURE, EYE	**EYE**: Swabs in Culturette containing appropriate transport media for organisms sought. Inoculated media plates may also be received.	
CULTURE, FUNGUS, HAIR, SKIN, NAILS with KOH FUNGUS W/ STAIN	Collect specimen using aerobic culture swab transport system for specimens from the mouth, nasopharynx, ear, eye, wound, vagina, cervix or urethra. Use leak-proof sterile plastic screw-capped containers for respiratory secretions, body fluids, aspirates, tissue, CSF, urine, hair, skin, nail, etc. Submit peripheral blood and bone marrow in a BD BACTEC MYCO/F – Lytic bottle. Transport dermatological and blood specimen tubes at room temperature. Refrigerate all other specimens for fungus cultures.	
CULTURE, GENITAL AND NEISSERIA GONORRHOEAE (GC) W/ GRAM STAIN	**Endocervix**: Remove excess mucus with a sterile swab and discard. Insert a 2nd sterile swab into the endocervix and rotate the swab for 15-30 seconds. **Male Urethra**: Collect specimen 2 hours after urination. Insert a sterile swab 2-4 cm into the urethra and rotate swab for 3-5 seconds. TRANSPORT INSTRUCTIONS: Specimens suspected of containing *Neisseria gonorrhoeae* (GC) should be collected in Liquid Stuart's Transport media and transported at room temperature. DO NOT REFRIGERATE.	
CULTURE, GROUP A STREP	Collect an adequate amount of specimen. Inadequate amounts of specimen may yield false negative results. Utilize appropriate collection devices. Use sterile equipment and aseptic technique to collect specimens to prevent the introduction of microorganisms during invasive procedures. Identify the specimen source and/or specific site correctly so that the proper culture media, identification and susceptibility	

TEST NAME	SPECIMEN REQUIREMENTS/ VACUUM TUBE SELECTION	SPECIMEN COLLECTION INSTRUCTIONS
	protocols will be used.	
CULTURE (NOT AVAILABLE AS CULTURE), GROUP B STREP PCR ONLY	Collect an adequate amount of specimen. Inadequate amounts of specimen may yield false negative results. Utilize appropriate collection devices. Use sterile equipment and aseptic technique to collect specimens to prevent the introduction of microorganisms during invasive procedures. Identify the specimen source and/or specific site correctly so that the proper culture media, identification and susceptibility protocols will be used.	
CULTURE, NASAL SWABS FOR MRSA SCREEN (SELF COLLECTION	Using a Liquid Stuarts Culturette, without contaminating the polyester fiber wrapped end, insert the swabs together into your nostril no deeper than one inch (1-2 cm). Stop inserting once the entire head of the swab is inserted into the nostril. Swab the nostril in a circular motion 2-3 times to touch the full perimeter of the nostril. Remove and insert the same swab into the opposite nostril. Immediately hand swabs to lab staff for tube closure and labeling. Refrigerate.	
CULTURE, MRSA (Other than Nasal)	Collect an adequate amount of specimen. Inadequate amounts of specimen may yield false negative results. Utilize appropriate collection devices. Use sterile equipment and aseptic technique to collect specimens to prevent the introduction of microorganisms during invasive procedures. Identify the specimen source and/or specific site correctly so that the proper culture media, identification and susceptibility protocols will be used.	
CULTURE, NASOPHARYNGEAL	Nasopharyngeal secretions, obtained by aspiration or washings, submitted in leak-proof sterile plastic screw-capped containers are the preferred specimen for culture. Alternate: Obtain specimen using nasopharyngeal swab. Immobilize patient's head and gently insert a nasopharyngeal swab into the nostril following the base of the nasal passage to the nasopharynx area. Rotate, allow swab to remain 20-30 seconds and remove. Submit swab in aerobic swab for Nasopharyngeal culture.	
CULTURE, SPUTUM	Collection in the early morning is recommended. The patient should gargle with water before collection. The most suitable specimen is the expectoration obtained after a deep cough. Instruct the patient to avoid adding saliva. Collect specimen in a leak-proof sterile plastic screw-capped container. Refrigerate	
CULTURE, THROAT ALL ORGANISMS	Throat cultures should be collected under direct visualization with an aerobic culture swab transport system. **Vigorously** swab both tonsillar areas, the posterior pharynx and any areas of inflammation, ulceration, exudation or capsule formation. The tongue should be depressed with a tongue blade to minimize contamination of the swab with oral secretions. Refrigerate	
CULTURE, TISSUE W/ GRAM STAIN	Collect an adequate amount of specimen. Utilize appropriate collection devices. Use sterile equipment and aseptic technique to collect specimens to prevent the introduction of microorganisms during invasive procedures. Identify the specimen source and/or specific site correctly so that the proper culture media, identification and susceptibility protocols will be used.	
CULTURE, URINE	**FEMALE – CLEAN VOID**: a thorough cleansing of the periurethral area is essential. Wash the area from the front to the back with a towelette. Lean slightly forward so	

TEST NAME	SPECIMEN REQUIREMENTS/ VACUUM TUBE SELECTION	SPECIMEN COLLECTION INSTRUCTIONS
	the urine flows directly down without running along the skin. After voiding the first portion of urine, place a leak-proof sterile plastic screw-capped container under the stream of urine and collect the remainder of the urine. Refrigerate. **MALE – CLEAN VOID**: Wash penis tip thoroughly using a towelette. After voiding the first portion, place a leak-proof sterile plastic screw-capped container under the stream of urine and collect the remainder of the urine. Refrigerate. **INDWELLING CATHETER**: Select a puncture site 1-2 inches distal to the catheter tube entry point and clamp below the puncture site. Cleanse the puncture site with 70% alcohol. Aspirate approximately 5mL of urine with a sterile needle and syringe. Transfer directly into a leak-proof sterile plastic screw-capped container. Refrigerate. A specimen obtained from a Foley catheter tips or collection bag is **not** suitable for analysis and will **not** be accepted for culture. **Cystoscopy**- follow standard collection procedures and obtain the specimen by aspiration. Refrigerate. **Suprapubic aspirates-** if anaerobic culture is desired it must be transported in an anaerobic transport vial, (room temperature)	
CULTURE, VIRAL	**NASOPHARYNGEAL**: Insert flexible wire-shafted Dacron™ swab into nostril to the posterior nasopharynx. Hold in place 5-10 seconds. Gently rotate and withdraw. Place the swab in a vial of Viral Transport Media. Break off excess shaft and cap tightly. Specimens may be held at room temp. (15 - 25ºC) for up to 4 hours, refrigerated (2 - 8ºC) for up to 3 days and frozen (≤15ºC or ≤ - 70ºC) for up to 30 days. Transport separately in biohazard zip-lock bag to Lab within an hour of collection. **Quest testing**: Include specimen source and the type of infection/virus expected on the test request form. Liquid specimens are not to be submitted in VCM. Specimens delivered to the laboratory within 2 hours of collection and no later than 1 day. Refrigerate within 1 hour of collection. Transport in separate zip-lock bag. VCM Cervical, Nasopharyngeal and Lesion (other) media provided by Quest **BIOPSY/AUTOPSY TISSUE**: Place 1 gram of tissue in vial of VCM. Cap tightly. Refrigerate. **BLOOD/ BONE MARROW**: Collect sodium heparin (green top tube). Refrigerate. **BRONCHOALVEOLAR LAVAGE**: Submit 5-10 mL in a sterile screw capped container. Refrigerate. **CONJUNCTIVA:** Use a small wire-shafted Dacron™ swab, thoroughly swab the inner surface of the lower eye lid and collect mucus membrane cells. Place the swab in a vial of VCM. Break off excess and cap tightly. Refrigerate. Or use VCM Lesion transport kit (frozen) **ENDOCERVIX**: Use a sterile swab to remove mucus and exudate from the endocervix and discard. Insert a 2nd sterile swab and collect cells from the endocervical transitional zone. Rotate swab for 10- 20 seconds. Withdraw the swab without touching vaginal surfaces. Place swab in vial of VCM. Break off tip of swab to fit in VCM tube and cap tightly. Refrigerate. Or use VCM Cervical transport kit (frozen). **FLUIDS**: **CSF, bronchial lavage, nasal wash, nasal aspirate, throat wash, sputum, pleural, peritoneal, joint, etc.** Submit 2 mL or more of undiluted specimen in leak-proof sterile screw-capped container. Refrigerate. **LESION**: Rupture the vesicle, use a Dacron™ swab to collect fluid and cells from	

TEST NAME	SPECIMEN REQUIREMENTS/ VACUUM TUBE SELECTION	SPECIMEN COLLECTION INSTRUCTIONS
	baseof lesion. Place swab in vial of VCM. Break off excess and cap tightly. Refrigerate.	
CULTURE, VIRAL CONTINUED	**RECTAL/STOOL**: a. Insert a Dacron™ swab into the anal orifice 3-5 cm past the anal sphincter. b. Rotate the swab, withdraw and place in a vial of VCM Culture Transport Media. Break off tip of swab shorter than the length of the VCM media transport tube and cap tightly. Refrigerate. c. Alternatively, collect feces in a clean dry container. Insert swab into stool. Place swab in a vial of VCM Culture Transport Media. Break off tip of swab shorter than the length of the VCM media transport tube and cap tightly. Refrigerate. **THROAT**: a. Using a Dacron™ swab, vigorously swab the tonsil area and the back of the pharynx. b. Place the swab in a vial of VCM Culture Transport Media. Break off tip of swab shorter than the length of the VCM media transport tube and cap tightly. Refrigerate. **URINE**: a. Collect a clean-voided urine specimen in a leak-proof sterile plastic screw-capped container. b. First morning urine is preferred. Refrigerate. **URETHRA**: a. Patient should not have urinated for at least 1 hour. Insert a small wire shafted Dacron™ swab 2-4 cm into the endourethra and rotate. Wait 1-2 seconds and withdraw the swab. b. Place the swab in a vial of VCM Culture Transport Media. Break off excess and cap tightly. Refrigerate.	
CULTURE, WOUND W/ GRAM STAIN	Collect an adequate amount of specimen. Inadequate amounts of specimen may yield false negative results. Utilize appropriate collection devices. Use sterile equipment and aseptic technique to collect specimens to prevent the introduction of microorganisms during invasive procedures. Identify the specimen source and/or specific site correctly so that the proper culture media, identification and susceptibility protocols will be used.	
CYTOLOGY/ HISTOLOGY GENERIC	Sterile cup, syringe, vacuum bottle, swab, clearly labeled container. (dependent on specimen and collection method). Contact Cytology/Histology for specific information.	
D- DIMER, HS	Fill 90-100%-2.7 mL Light blue top (Na Citrate)	
DEXAMETHASONE SUPPRESSION TESTS	Draw one RED/ SST SERUM **Patient Preparation**: Instruct the patient to fast 10-12 hours before the morning blood draw. For inpatients- Give dexamethasone	8:00 a.m. the following day. EXPECTED VALUE ≤5.0 mg/dl

TEST NAME	SPECIMEN REQUIREMENTS/ VACUUM TUBE SELECTION	SPECIMEN COLLECTION INSTRUCTIONS
	at 11:00 p.m. For outpatients: 1. They should obtain the dexamethasone through a commercial pharmacy. 2. Take the dexamethasone at 11:00 p.m.	
DIGOXIN (Lanoxin)	4 mL GREEN PST Or RED/ SST Recommended specimen types: serum and plasma (lithium heparin).	Note last dose. Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection and are stable for 24 hours at room temperature, 7 days at 2—8° C. frozen for up to 3 months at -20° C or colder.
	Patient Preparation: Instruct the patient to fast 10-12 hours before the morning blood draw. For inpatients- Give dexamethasone at 11:00 p.m. For outpatients: 1. They should obtain the dexamethasone through a commercial pharmacy. 2. Take the dexamethasone at 11:00 p.m.	
DILANTIN/ PHENYTOIN	4 mL GREEN PST Or RED/ SST Recommended specimen types: serum and plasma (lithium heparin).	Note last dose. Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection and are stable for 24 hours at room temp., 7 days at 2—8° C. frozen for up to 3 months at -20° C or colder.
DIRECT BILIRUBIN	4 mL GREEN PST or RED/ SST Recommended specimen types: serum and plasma (lithium heparin).	Complete clot formation before centrifugation. Serum or plasma separated from cells within two hours of collection. Bilirubin is extremely photosensitive. Protect sample from both daylight and fluorescent light to avoid photodegradation. Samples stored at 4 °C and analyzed within 5 days.
DIRECT ANTIGLOBULIN TEST (DAT, Coombs Test, Direct Coombs)	Correctly filled 4 mL EDTA Lavender Cord Blood	
DRUG SCREEN, Urine	Clean, dry, and clearly labeled container	REFRIGERATE Cap tight and double bagged
ELECTROLYTES	4 mL GREEN PST	Complete clot formation before

TEST NAME	SPECIMEN REQUIREMENTS/ VACUUM TUBE SELECTION	SPECIMEN COLLECTION INSTRUCTIONS
Sodium, Potassium, Chloride, CO2, Anion Gap	Or RED/ SST Recommended specimen types: serum and plasma (lithium heparin).	centrifugation. Serum or plasma separated from cells within two hours of collection.
ELECTROLYTES (Urine-Sodium, Potassium, Chloride)	Clean, dry, and clearly labeled container	REFRIGERATE Cap tight and double bagged
EOSINOPHIL COUNT, Urine/Nasal/Sputum	Clean, dry, and clearly labeled container	REFRIGERATE Cap tight and double bagged
ERYTHROCYTE SEDIMENTATION RATE (ESR)	Correctly filled 4 mL EDTA Lavender	Short draws or clotted specimens MUST be redrawn. Stable 24 hours
ESTRADIOL	Serum, lithium and/or sodium heparin and EDTA plasma. Samples and controls stabilized with sodium azide cannot be used.	Complete clot formation before centrifugation. Serum or plasma separated from cells within two hours of collection.
ETHANOL, BLOOD ALCOHOL	4 mL GREEN PST Or RED/ SST	Use non-alcohol germicidal solution to cleanse the skin. The tube should be filled and stored refrigerated until analyzed. Specimens may be stored tightly closed and refrigerated at 2–8 °C for up to 3 days following collection. After 3 days, specimens should be stored frozen.
FERRITIN	4 mL GREEN PST or RED/ SST Recommended specimen types: serum and plasma (lithium heparin).	Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection and are stable for 24 hours at room temperature, 7 days at 2—8° C. frozen for up to 3 months at -20° C or colder.
FETAL MATERNAL HEMORRHAGE (Rosette, Betke-Kleihauer)	Maternal blood collected in Correctly filled 4 mL EDTA Lavender	Maternal blood collected with EDTA. Samples should be stored at 2-8 °C until assayed and are stable for 14 days
FETAL FIBRONECTIN	Cervicovaginal sample	Specimen will be collected by nursing with the Cytyc Collection Kit and sent to the lab. Specimens are tested ASAP after receipt in the lab.
FIBRINOGEN-QFA	Fill 90-100%-2.7 mL Light blue top (Na Citrate)	Short draws or clotted specimens MUST be redrawn.

TEST NAME	SPECIMEN REQUIREMENTS/ VACUUM TUBE SELECTION	SPECIMEN COLLECTION INSTRUCTIONS
FLUID, CELL COUNT	Cup, syringe, vacuum bottle, clean, dry, and clearly labeled container. (dependent on specimen and collection method)	
FLUID, GRAM STAIN	Sterile cup, syringe, vacuum bottle, swab, and clearly labeled container. (dependent on specimen and collection method)	
FOLIC ACID	4 mL RED/ SST protected from light Recommended specimen types: serum	Complete clot formation before centrifugation. Serum separated from cells within two hours of collection and are stable for 24 hours at room temperature, 7 days at 2—8° C. frozen for up to 3 months at -20° C or colder.
FOLLICLE STIMULATING HORMONE (FSH)	4 mL GREEN PST Or RED/ SST Recommended specimen types: serum and plasma (lithium heparin).	Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection and are stable for 24 hours at room temperature, 7 days at 2—8° C. frozen for up to 3 months at -20° C or colder.
FREE T3 TRIIODOTHYRONINE FREE	4 mL GREEN PST Or RED/SST Recommended specimen types: serum and plasma (lithium heparin).	Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection and are stable for 24 hours at room temperature, 7 days at 2—8° C. frozen for up to 3 months at -20° C or colder.
FREE T4 THYROXINE, FREE	4 mL GREEN PST Or RED/SST Recommended specimen types: serum and plasma (lithium heparin).	Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection and are stable for 24 hours at room temperature, 7 days at 2—8° C. frozen for up to 3 months at -20° C or colder.
GAMMA-GLUTAMYL TRANSFERASE (GGT)	4 mL GREEN PST Or RED/ SST Recommended specimen types: serum and plasma (lithium heparin).	Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection and are stable for 24 hours at room temperature, 7 days at 2—8° C. frozen for up to 3 months at -20° C or colder.
GENTAMICIN, PEAK	4 mL GREEN PST or RED/SST Recommended specimen types: serum and plasma (lithium heparin).	Note last dose COLLECTION TIME DEPENDS ON ROUTE OF ADMINISTRATION

TEST NAME	SPECIMEN REQUIREMENTS/ VACUUM TUBE SELECTION	SPECIMEN COLLECTION INSTRUCTIONS
GENTAMICIN	4 mL GREEN PST or RED/SST Recommended specimen types: serum and plasma (lithium heparin).	Note last dose Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection and are stable for 24 hours at room temperature, 7 days at 2—8° C. frozen for up to 3 months at -20° C or colder.
GENTAMICIN, TROUGH	4 mL GREEN PST or RED/ SST Recommended specimen types: serum and plasma (lithium heparin).	Collect just prior to next dose
GFR- GOMERULAR FILTRATION RATE GFR AFRICAN AMERICAN	4 mL GREEN PST Or RED/ SST Recommended specimen types: serum and plasma (lithium heparin).	Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection.
GI PANEL -PCR BIOFIRE	Cary Blaire Transport Media (at least .2 mL) **ORGANISMS IDENTIFIED**- Campylobacter (C. jejuni/C. coli/C. upsaliensis) Clostridium difficile toxin A/B Plesiomonas shigelloides Salmonella Vibrio (V. parahaemolyticus/V. vulnificus/V. cholerae), Vibrio cholerae, Yersinia enterocolitica, Enteroaggregative Escherichia coli , Enteropathogenic Escherichia coli Enterotoxigenic Escherichia coli Shiga-like toxin- producing Escherichia coli, E. coli O157 serogroup, Shigella/ Enteroinvasive Escherichia coli, Cryptosporidium Cyclospora cayetanensis Entamoeba histolytica, Giardia lamblia, Adenovirus F 40/41 Astrovirus, Norovirus GI/GII, Rotavirus A, Sapovirus (Genogroups I, II, IV, and V)	Test as soon as possible, Store at room temp. or refrigerated for up to 4 days. EXPECTED VALUE Interpretations section provides a complete list of the test results. Possible results for each organism include Detected, Not Detected, N/A, and Invalid
GLUCOSE-6-PHOSPHATE	Correctly filled 4 mL EDTA Lavender	Specimen Stability Room temperature: 48 hours

TEST NAME	SPECIMEN REQUIREMENTS/ VACUUM TUBE SELECTION	SPECIMEN COLLECTION INSTRUCTIONS
DEHYDROGENASE (G6PD)	Or EDTA (royal blue-top) tube	Refrigerated: 7 days Frozen: Unacceptable Short draws or clotted specimens MUST be redrawn.
	ORGANISMS IDENTIFIED-Campylobacter (C. jejuni/C. coli/C. upsaliensis) Clostridium difficile toxin A/B Plesiomonas shigelloides Salmonella Vibrio (V. parahaemolyticus/V. vulnificus/V. cholerae), Vibrio cholerae, Yersinia enterocolitica, Enteroaggregative Escherichia coli , Enteropathogenic Escherichia coli Enterotoxigenic Escherichia coli Shiga-like toxin- producing Escherichia coli, E. coli O157 serogroup, Shigella/ Enteroinvasive Escherichia coli, Cryptosporidium Cyclospora cayetanensis Entamoeba histolytica, Giardia lamblia, Adenovirus F 40/41 Astrovirus, Norovirus GI/GII, Rotavirus A, Sapovirus (Genogroups I, II, IV, and V)	
GLUCOSE, BODY FLUID	Cup, syringe, vacuum bottle, clean, dry, and clearly labeled container. (dependent on specimen and collection method)	REFRIGERATE Cap tight and double bagged
GLUCOSE, Fasting	4 mL GREEN PST or RED/ SST Serum, plasma (lithium heparin, sodium heparin, sodium fluoride) **Patient Preparation**: Fasting for at least 8 hours is required. Glycolysis decreases serum glucose by approximately 5% to 7% per hour in normal uncentrifuged, coagulated blood at room temperature. In separated, non- hemolyzed sterile serum, the glucose concentration is generally stable as long as 8 hours at 25 °C and up to 72 hours at 4 °C; variable stability is observed with longer storage conditions. Glycolysis can be inhibited, and glucose stabilized for as long as 3 days at room temperature by addition of sodium iodoacetate or sodium fluoride (NaF) to the specimen.	Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection. EXPECTED VALUE 70-99 mg/dl----- Diabetes Association (ADA) criteria for the diagnosis of diabetes: 1. Symptoms of diabetes and a random glucose ≥ 200 mg/dL OR Fasting glucose ≥ 126 mg/dL 2. Impaired fasting glucose (IFG), a fasting glucose between 100 and 125 mg/dL [5.6–6.9 mmol/L], is defined by the ADA as a category at risk for future diabetes and cardiovascular disease.

TEST NAME	SPECIMEN REQUIREMENTS/ VACUUM TUBE SELECTION	SPECIMEN COLLECTION INSTRUCTIONS
GLUCOSE GESTATION SCREEN 1 Hour- 50 gram	4 mL GREEN PST or RED/ SST Serum, plasma (lithium heparin, sodium heparin, sodium fluoride)	No fasting is required.
	Patient Preparation: Patient is given a 50-gram glucose solution. The patient must drink the solution within 5 minutes and wait in the waiting area and refrain from smoking, consuming any food or liquids, except for water during the test. A one-hour timer is set as soon as patient starts to drink the solution. Actual draw time should be ± 5 minutes from the time. Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection.	
GLUCOSE TOLERANCE -2-HOUR	4 mL GREEN PST or RED/ SST Serum, plasma (lithium heparin, sodium heparin, sodium fluoride)	Collect a fasting blood specimen to get a valid glucose result. DO NOT administer the dextrose drink if the patient's glucose is >126 mg/dL. Cancel the test and contact the ordering provider. If the fasting glucose is <126 mg/dl proceed with GTT. Give the patient the standard glucose solution: 75g for non-pregnant adults 100g for pregnant women, 1.75 g/kg ideal body weight up to 75 grams for children. The patient must drink the solution within 5 minutes. Start timing from when the patient begins to drink the solution. Blood samples are drawn at appropriate intervals, 1 hour and 2 hours for a 2-hour GTT. Actual draw time should be ± 5 minutes. Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection.
	Patient Preparation: Fasting for at least 8 hours is required. Instruct patient to wait in the waiting area and refrain from smoking, consuming any food or liquids, except for water during the test.	
GLUCOSE TOLERANCE, 2-HOUR POST PRANDIAL	4 mL GREEN PST or RED/ SST Serum, plasma (lithium heparin, sodium heparin, sodium fluoride)	Follow the preparation as stated above. The patient must drink the solution within 5 minutes. Start timing (two-hour timer) from when the patient begins to drink the solution. Actual draw time should be 2 hours ± 5 minutes.
	Patient Preparation: Fasting for at least 8 hours is required. Instruct patient to wait in the waiting area and refrain from smoking, consuming any food or liquids, except for water during the test.	
GLUCOSE	4 mL GREEN PST	Collect a fasting blood specimen and perform

TEST NAME	SPECIMEN REQUIREMENTS/ VACUUM TUBE SELECTION	SPECIMEN COLLECTION INSTRUCTIONS
TOLERANCE, 3-HOUR	or RED/ SST Serum, plasma (lithium heparin, sodium heparin, sodium fluoride)	the glucose test to get a valid glucose result. DO NOT administer the dextrose drink if the patient's glucose is >126 mg/dL. Cancel the test and contact the ordering provider. If the fasting glucose is <126 mg/dl proceed with GTT. Give the patient the standard glucose solution: 75g for non-pregnant adults 100g for pregnant women 1.75 g/kg ideal body weight up to 75 grams for children. The patient must drink the solution within 5 minutes. Start timing from when the patient begins to drink the solution. Blood samples are drawn at appropriate intervals, 1, 2, and 3 hours for a 3-hour GTT. Actual draw time should be ± 5 minutes.
	Patient Preparation: Fasting for at least 8 hours is required. Instruct patient to wait in the waiting area and refrain from smoking, consuming any food or liquids, except for water during the test.	
GLUCOSE, Urine-Random	Cup, syringe, vacuum bottle, clean, dry, and clearly labeled container. (dependent on specimen and collection method)	
	Patient Preparation: Fasting for at least 8 hours is required. Instruct patient to wait in the waiting area and refrain from smoking, consuming any food or liquids, except for water during the test.	
GLUCOSE, Urine 24 hours GC DETECTION TMA RNA (may use one specimen for CT and GC detection)	Aliquot of a well mixed 24 -hour urine collection in a Clean, dry, and clearly labeled container "Dirty urine" placed in urine Aptima tube (obtain from lab, call for collection instructions) Unisex Aptima swab system	**Patient Preparation**: SEE URINE Chemistry-24 hour for detailed collection instructions Large white swab is used to clear mucous for females. After mucous removed, collect specimen with blue swab. Males- only blue swab step.
GLUCOSE, Urine 24 hours	Aliquot of a well mixed 24 -hour urine collection in a Clean, dry, and clearly labeled container	**Patient Preparation**: SEE URINE Chemistry-24 hour for detailed collection instructions
GRAM STAIN	Sterile cup, syringe, vacuum bottle, swab and clearly labeled container. (dependent on specimen and collection method)	90 MINS. EXPECTED VALUE: Source dependent

TEST NAME	SPECIMEN REQUIREMENTS/ VACUUM TUBE SELECTION	SPECIMEN COLLECTION INSTRUCTIONS
GLYCOSYLATED HEMOGLOBIN (hemoglobin A1C)	Correctly filled 4 mL EDTA Lavender	
HAPTOGLOBIN	4 mL GREEN PST or RED/ SST Recommended specimen types: serum and plasma (lithium heparin).	Complete clot formation before centrifugation. Serum or plasma separated from cells within two hours are stable for 24 hours at room temperature, 7 days at 2—8° C. frozen for up to 3 months at -20° C or colder.
HEMATOCRIT	Correctly filled 4 mL EDTA Lavender	Short draws or clotted specimens MUST be redrawn.
HEMOGLOBIN	Correctly filled 4 mL EDTA Lavender	Short draws or clotted specimens MUST be redrawn.
HEMOGLOBIN & HEMATOCRIT	Correctly filled 4 mL EDTA Lavender	Short draws or clotted specimens MUST be redrawn.
HEPARIN-LOW MOLECULAR WEIGHT HEPARIN LEVEL (LMWH)	Fill 90-100%-2.7 mL Light blue top (Na Citrate)	Short draws or clotted specimens MUST be redrawn.
HEPARIN ANTI- XA-UFH	Fill 90-100%-2.7 mL Light blue top (Na Citrate)	Short draws or clotted specimens MUST be redrawn.
HEPATIC (LIVER) PROFILE-Albumin Total Protein, Total/Direct/Indirect Bilirubin, Alk. Phos, AST, ALT, AG ratio	Serum, lithium or sodium heparinized plasma	Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection and are stable for 24 hours at room temperature, 7 days at 2—8° C. frozen for up to 3 months at -20° C or colder.
HEPATITIS A ANTIBODY, IgM	Serum, potassium EDTA plasma, lithium or sodium heparinized plasma are the only recommended sample types for this assay	Test samples as soon as possible after collecting. Store samples at 2–8°C if not tested within 8 hours of collection. Store primary tube samples at 2–8°C up to 2 days. Always keep samples stoppered and upright.
HEPATITIS B CORE AB IgM	Serum, EDTA plasma, lithium or sodium heparinized plasma	Test samples as soon as possible after collecting. Store samples at 2–8°C if not tested within 8 hours of collection. Store primary tube samples at 2–8°C up to 2 days.

TEST NAME	SPECIMEN REQUIREMENTS/ VACUUM TUBE SELECTION	SPECIMEN COLLECTION INSTRUCTIONS
		Always keep samples stoppered and upright.
HEPATITIS Bs AB, QUA	Serum is the only specimen type.	Samples may be stored at room temperature or on-board instrument for up to 8 hours. Store samples at 2° to 8°C if not tested within 8 hours of collection. Store samples always stoppered and upright at 2° to 8°C up to 14 days
HEPATITIS B SURFACE ANTIGEN	Serum, plasma (EDTA, lithium-heparinized, or sodium-heparinized)	Store samples always stoppered at 2–8°C up to 7 days. Store primary tube samples at 2–8°C up to 7 days. Always keep samples stoppered.
HEPATITIS C ANTIBODY	Serum, potassium EDTA plasma, lithium or sodium heparinized plasma are the recommended sample types for this assay.	Store samples at 2–8°C if not tested immediately. Store samples always stoppered and upright at 2–8°C up to 7 days. Freeze samples, devoid of red blood cells, at or below -20°C for longer storage
HEPATITIS PANEL, ACUTE- HEP. A IgM, HEP. B SURFACE AG- HEP. B CORE IgM- HEP. C AB,	2 SST (10 mL) Or RED/GOLD	Test samples as soon as possible after collecting. Store samples at 2–8°C if not tested immediately. Store samples always stoppered and upright at 2–8°C up to 7 days. Freeze samples, devoid of red blood cells, at or below -20°C for longer storage.
HERPES 1/2	Lesion/Other Swab Cervical- Swab	Genital, Oral Herpes Male and Female 24 hours of collection Do not refrigerate. Must indicate source. Cervical Herpes Female 24 hours of collection Do not refrigerate.
HELICOBACTER PYLORI Antigen (H. pylori)	Breath or Stool sample- Collect 0.5 mL or 0.5 grams of semi-solid stool **or** 20 mm diameter solid stool and transfer to properly labeled plastic, leak-proof container **Patient Preparation**: Patient should fast one hour before collection of baseline breath sample.	Test may not be suitable for patients with phenylketonuria whose dietary phenylalanine should be restricted. Use of antimicrobials, proton pump inhibitors, or bismuth preparations within two weeks prior to administering the BreathTek™ UBT may cause a false negative result. A positive result is still valid. **Do not place stool in preservative, transport media or swab.** Watery, diarrheal stool is not acceptable. EXPECTED VALUE Negative

TEST NAME	SPECIMEN REQUIREMENTS/ VACUUM TUBE SELECTION	SPECIMEN COLLECTION INSTRUCTIONS
HUMAN IMMUNODEFICIENCY VIRUS, HIV 1/2	Human serum and plasma (potassium-EDTA, lithium heparin, sodium heparin	Human serum and plasma (potassium-EDTA, lithium heparin, sodium heparin) B. Complete clot formation should take place before centrifugation. Specimens are processed by centrifugation, typically followed by physical separation of the serum or plasma from the red cells. The centrifugation step may occur up to 24 hours post draw.
	Patient Preparation: Patient should fast one hour before collection of baseline breath sample.	
HSV 1/2 IgM AB, REFLEX TITER	Red Top-Serum	Complete clot formation before centrifugation.
INDIRECT BILIRUBIN	4 mL GREEN PST or RED/ SST Recommended specimen types: serum and plasma (lithium heparin).	Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection. Bilirubin is extremely photosensitive. Care should be taken to protect sample from both daylight and fluorescent light to avoid photodegradation. Samples stored at 4 °C and analyzed within 5 days. Samples may be frozen at -20 °C or colder for up to 6 months.
INFECTIOUS MONO TEST	The Clearview MONO test is performed using EDTA whole blood from venipuncture or finger stick using standard laboratory procedures. Whole blood is stable stored at 2-8ºC for 48 hours. Do not freeze whole blood samples.	STAT ELIGIBLE EXPECTED VALUE Negative
INFLUENZA A & B	Nasopharyngeal Swab Samples Nursing will collect all nasopharyngeal swab and nasal swabs (foam)samples. Specimens must be properly labeled and may be sent in the original packaging or sent down in a sterile saline container. Visually bloody samples should not be used. SPECIMEN TRANSPORT AND STORAGE Specimens should be tested as soon as possible after collection	
IRON	4 mL GREEN PST or RED/ SST Recommended specimen types: serum and plasma (lithium heparin).	
IRON PANEL (Iron	4 mL GREEN PST	Complete clot formation before

TEST NAME	SPECIMEN REQUIREMENTS/ VACUUM TUBE SELECTION	SPECIMEN COLLECTION INSTRUCTIONS
saturation, TIBC, Iron)	or RED/ SST Recommended specimen types: serum and plasma (lithium heparin).	centrifugation. Serum or plasma should be separated from cells within two hours of collection and are stable for 24 hours at room temperature, 7 days at 2—8° C. frozen for up to 3 months at -20° C or colder.
KETONES	Dark Green (Na Heparin)	
KETONES- URINE	Cup, syringe, vacuum bottle, clean, dry, and clearly labeled container. (dependent on specimen and collection method)	REFRIGERATE Cap tight and double bagged
KLEIHAUER-BETKE- Rosette, Fetal Maternal Hemorrhage	Correctly filled 4 mL EDTA Lavender	Short draws or clotted specimens MUST be redrawn.
KIDNEY- 24 HOUR STONE RISK	Call lab for collection container	FOLLOW INSTRUCTIONS PROVIDED
KIDNEY- 24 HOUR STONE RISK	Call lab for collection container	FOLLOW INSTRUCTIONS PROVIDED
LACTATE DEHYDROGENASE (LD)	4 mL GREEN PST Or RED/ SST Recommended specimen types: serum and plasma (lithium heparin).	Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection and are stable for 24 hours at room temperature, 7 days at 2—8° C. frozen for up to 3 months at -20° C or colder.
LACTATE DEHYDROGENASE, Fluid	Cup, syringe, vacuum bottle, clean, dry, and clearly labeled container. (dependent on specimen and collection method)	
LACTIC ACID - Venous (Venous Lactate)	Grey top tube- Recommended specimen type: Plasma (sodium fluoride/potassium oxalate). **Patient Preparation:** The patient should be fasting and at complete rest	Blood is best collected without stasis in a container of sodium fluoride/potassium oxalate, or sodium iodoacetate followed by immediate chilling of the specimen and separation of the cells within 15 minutes. EXPECTED VALUE 0.4 – 2.0 mmol/L

TEST NAME	SPECIMEN REQUIREMENTS/ VACUUM TUBE SELECTION	SPECIMEN COLLECTION INSTRUCTIONS
LEGIONELLA AG, URINE	Sterile cup, syringe, vacuum bottle, and clearly labeled container. (dependent on specimen and collection method)	REFRIGERATE Cap tight and double bagged
LEAD	3 mL EDTA tan top (obtain from lab or send patient to OP testing)	Collection material such as alcohol swabs should be lead-free. Use powderless gloves. Once washed, fingers must not come into contact with any surface. Clean area for venipuncture with lead-free alcohol swab prior to puncture.
LIDOCAINE	Preferred Specimen(s)-1 mL serum collected in a red-top tube **(no gel)** Alternative Specimen(s)-EDTA (lavender-top) tube, sodium heparin (green-top) tube, or fluoride/oxalate (gray-top) tube	Specimen Stability- Room temperature: 5 days Refrigerated: 7 days Frozen: 30 days
LIPASE	4 mL GREEN PST Or RED/ SST Recommended specimen types: serum and plasma (lithium heparin).	Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection and are stable for 24 hours at room temperature, 7 days at 2—8° C. frozen for up to 3 months at -20° C or colder.
LIPASE, BODY FLUID	Cup, syringe, vacuum bottle, clean, dry, and clearly labeled container. (dependent on specimen and collection method)	
LIPID PROFILE-HDL, LDL, Triglyceride, Cholesterol, CHOL/HDL Ratio	4 mL GREEN PST Or RED/ SST Recommended specimen types: serum and plasma (lithium heparin). **Patient Preparation**: None. Physician may request 8-12 hour fast	Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection and are stable for 24 hours at room temperature, 7 days at 2—8° C. frozen for up to 3 months at -20° C or colder. EXPECTED VALUE See individual analyte CHOL/HDL Ratio=0.0-4.5
LIPOPROTEIN, HIGH DENSITY (HDL)	4 mL GREEN PST Or RED/ SST Recommended specimen types: serum and plasma (lithium heparin).	Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection and are stable for 24 hours at room temperature, 7 days at 2—8° C. frozen for up to 3 months at -20° C or colder.
	Patient Preparation: None, Physician may request 8-12 hour fast	

TEST NAME	SPECIMEN REQUIREMENTS/ VACUUM TUBE SELECTION	SPECIMEN COLLECTION INSTRUCTIONS
LIPOPROTEIN, LOW DENSITY (LDL)	4 mL GREEN PST Or RED/ SST Recommended specimen types: serum and plasma (lithium heparin).	Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection and are stable for 24 hours at room temperature, 7 days at 2—8° C. frozen for up to 3 months at -20° C or colder.
	Patient Preparation: None, Physician may request 8-12 hour fast	
LITHIUM	4 mL GREEN PST Or RED/ SST Recommended specimen types: serum and plasma (**SODIUM** heparin).	Note last dose Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection and are stable for 24 hours at room temperature, 7 days at 2—8° C. frozen for up to 3 months at -20° C or colder.
	Patient Preparation: None, Physician may request 8-12 hour fast	
LIVER (HEPATIC) PROFILE—Total Protein, Albumin, Total Bilirubin, Direct bilirubin, Alk. Phosphatase, AST, ALT, AG Ratio	4 mL GREEN PST Or RED/ SST/GOLD Recommended specimen types: serum and plasma (lithium heparin).	Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection and are stable for 24 hours at room temperature, 7 days at 2—8° C. frozen for up to 3 months at -20° C or colder.
LUTEINIZING HORMONE (LH)	4 mL GREEN PST Or RED/ SST/GOLD Recommended specimen types: serum and plasma (lithium heparin).	Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection and are stable for 24 hours at room temperature, 7 days at 2—8° C. frozen for up to 3 months at -20° C or colder.
MAGNESIUM	4 mL GREEN PST Or Red/ SST Recommended specimen types: serum, plasma (lithium heparin)	Complete clot formation should take place before centrifugation. Serum or plasma should be physically separated from cells two hours from the time of collection. Magnesium in serum is stable when stored for 7 days at 20-25 °C or 7 days at 2-8 °C. Separated specimens may be stored frozen for up to 12 months at -20 °C or colder.
MAGNESIUM, 24-HOUR URINE	Aliquot of a well mixed 24 -hour urine collection in a Clean, dry, and clearly labeled container **Patient Preparation**: SEE URINE Chemistry- 24 hour for detailed collection instructions	A 24-hour urine specimen should be collected in a bottle containing 10 mL of 12M hydrochloric acid. Magnesium in urine is stable when stored for 7 days at 20-25 °C or 7 days at 2-8 °C. Separated specimens may be stored frozen for up to 12 months at -20 °C or colder. EXPECTED VALUE

TEST NAME	SPECIMEN REQUIREMENTS/ VACUUM TUBE SELECTION	SPECIMEN COLLECTION INSTRUCTIONS
		Urine: 12–291 mg/24 hour
MATERNAL SCREEN α-Fetoprotein	4 mL GREEN PST Or RED/ SST Recommended specimen types: serum and plasma (lithium heparin).	Samples stored at 4 °C and analyzed within one week. Samples stored frozen at -20 °C or colder for 10 months.
	Patient Preparation: SEE URINE Chemistry- 24 hour for detailed collection instructions	
MICROALBUMIN, Urine	Clean, dry, and clearly labeled container. 3..	Second morning urine. First-morning sample for simultaneous albumin and creatinine measurement. Overnight (8-12-hour) collection 1- to 2-hour collection.
MICROALBUMIN, 24-Hour	Aliquot of a well-mixed 24-hour urine collection in a Clean, dry, and clearly labeled container **Patient Preparation**: SEE URINE Chemistry- 24 hour for detailed collection instructions.	Samples should not be collected: 1. after exertion 2. in the presence of urinary tract infection 3. during acute illness 4. immediately after surgery 5. after an acute fluid load. 6. Specimens should be collected without preservatives. EXPECTED VALUE Less than 30 mg/24 hours
MONOTEST-Infectious Mononucleosis	The Clearview MONO test is performed using EDTA whole blood from venipuncture or finger stick using standard laboratory procedures. Whole blood is stable stored at 2-8ºC for 48 hours. Do not freeze whole blood samples.	STAT ELIGIBLE
	Patient Preparation: SEE URINE Chemistry- 24 hour for detailed collection instructions.	
OCCULT BLOOD, GASTRIC	GASTRIC: a. Send gastric contents to the laboratory in a leak-proof plastic screw-capped container. b. Do not submit gastric samples on Gastro-Cult™ cards. Refrigerate at 2-8ºC for up to 5 day Clean, dry, and clearly labeled container.	24 hours EXPECTED VALUE Negative
OCCULT BLOOD, STOOL	**Patient Preparation**: STOOL: Collect a stool specimen in a clean dry container. Open the flap of a Hema-screen™ card. Using a wooden stick, spread stool on the test area. Transport at room temperature. May be refrigerated. b. NOTE: The patient should be placed on a red meat-free diet for three (3) days prior to this test, should not take ascorbic acid (vitamin C) in excess of 250 mg per day and should (after consulting with physician) discontinue some oral medications that cause gastrointestinal bleeding and occult bleeding	
ORGANISM ID AND	SEE CULTURE SECTION OF THIS CATALOG.	

TEST NAME	SPECIMEN REQUIREMENTS/ VACUUM TUBE SELECTION	SPECIMEN COLLECTION INSTRUCTIONS
SENSITIVITY		
OSMOLALITY	Serum- Red/ SST	Complete clot formation before centrifugation. Serum should be separated from cells within two hours of collection and are stable for 24 hours at room temperature, 7 days at 2—8° C. frozen for up to 3 months at -20° C or colder.
OSMOLALITY, URINE	Clean, dry, and clearly labeled container	REFRIGERATE Cap tight and double bagged
OVA AND PARASITES--O&P Must request a full O&P, otherwise only a Giardia / Crypto will be performed.	Complete O&P: TotalFix transport media, obtain from lab. For Giardia/ Crypto only, send in raw specimen, no fixative **Patient Preparation**: Wait 7-10 days after the ingestion Iron salts from antacids, Barium containing compound, Bismuth, Magnesium aluminum compounds, Kaolin (Kaopectate**),** Antibiotics especially tetracycline, Oil laxatives	Recommended at least three specimens, collected at 1-3-day intervals, be submitted for examination. Must be preserved in TotalFix media vial and received within 1 hour of collection. EXPECTED VALUE Negative
PARASITE, MACROSCOPIC EXAM (AKA WORM) Identification	Sterile cup and clearly labeled container. (dependent on specimen and collection method)	Adult worm in plastic screw-capped container
	Patient Preparation: Wait 7-10 days after the ingestion Iron salts from antacids, Barium containing compound, Bismuth, Magnesium aluminum compounds, Kaolin (Kaopectate**),** Antibiotics especially tetracycline, Oil laxatives	
PARATHYROID HORMONE, Intact (Intact PTH)	Human serum and plasma (lithium heparin, sodium heparin, EDTA) are the recommended specimen types for this assay	Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection nd are stable for 24 hours at room temperature, 7 days at 2—8° C. frozen for up to 3 months at -20° C or colder.
PH, BODY FLUID	Cup, syringe, vacuum bottle, clean, dry, and clearly labeled container. (dependent on specimen and collection method)	REFRIGERATE Cap tight and double bagged
PH, URINE	Clean, dry, and clearly labeled	REFRIGERATE

TEST NAME	SPECIMEN REQUIREMENTS/ VACUUM TUBE SELECTION	SPECIMEN COLLECTION INSTRUCTIONS
	container	Cap tight and double bagged
PHENOBARBITAL	4 mL GREEN PST or RED/ SST Recommended specimen types: serum and plasma (lithium heparin).	Note last dose Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection and are stable for 24 hours at room temperature, 7 days at 2—8° C. frozen for up to 3 months at -20° C or colder.
PHENYTOIN/ DILANTIN	4 mL GREEN PST or RED/ SST Recommended specimen types: serum and plasma (lithium heparin).	Note last dose Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection and are stable for 24 hours at room temperature, 7 days at 2—8° C. frozen for up to 3 months at -20° C or colder.
PHOSPHORUS, INORGANIC PHOSPHATE	4 mL GREEN PST or RED/ SST Recommended specimen types: serum and plasma (lithium heparin).	Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection and are stable for 24 hours at room temperature, 7 days at 2—8° C. frozen for up to 3 months at -20° C or colder.
PHOSPHORUS, URINE 24 HOUR	Aliquot of a well -mixed 24-hour urine collection in a Clean, dry, and clearly labeled container **Patient Preparation**: SEE URINE Chemistry- 24 hour for detailed collection instructions	Collection of 24-hour urine specimen in a container with 10 to 20 mL of 6M HCl. If preservatives are not used during collection, acidify the sample to below pH 3.0 before analysis. EXPECTED VALUE Urine: 0.4–1.3 g/24hour [12–42 mmol/24 hour]
PINWORM PREP	**Patient Preparation**: A pinworm collection kit is a plastic tube with a paddle attached to the lid and is available from the laboratory. The paddle has a sticky side placed against the perirectal area in the early morning before the patient gets out of bed and moves around. Replace the inoculated paddle into the tube and cap. It is recommended to collect one specimen on three consecutive days. Transport at room temperature.	Routine
	Patient Preparation: SEE URINE Chemistry- 24 hour for detailed collection instructions	

TEST NAME	SPECIMEN REQUIREMENTS/ VACUUM TUBE SELECTION	SPECIMEN COLLECTION INSTRUCTIONS
PKU / NEWBORN SCREEN=	The Illinois panel: amino/urea cycle disorders, biotinidase deficiency, congenital adrenal hyperplasia, congenital hypothyroidism, cystic fibrosis, fatty acid oxidation disorders, galactosemia, lysosomal storage disorders, organic disorders, phenylketonuria, severe combined immune deficiency, sickle cell disease, hearing loss and critical congenital heart disease. Specimen filter requisition (supplied by the IDPH) UPS mailer envelope, and UPS shipping label**,** Heel lancet**,** Gauze and Alcohol wipes, Band-Aid Collection and processing of neonatal screens is critically important. For a valid screen, the infant must be at least 24 hours old. (There is no upper age limit for the test.) The nursing staff will collect the neonatal screen before the infant leaves the hospital. If the infant leaves the hospital before he/she is 24 hours old, a second neonatal screen must be collected and sent to the IDPH laboratory within 21 days.	
PLATELET COUNT	Correctly filled 4 mL EDTA Lavender	
PLATELET FUNCTION ASSAY **Platelet Function Analysis (PFA, PFA-100, Closure Time)**	Fill 2 90-100%-2.7 mL Light blue top (Na Citrate)	Short draws or clotted specimens MUST be redrawn. DO NOT USE A SYRINGE TO COLLECT.
POINT of CARE: POC ACT	A plain syringe	Immediately remove any air drawn into the syringe. Mix the sample for 20 – 30 seconds by rolling the syringe vigorously between the palms in two different directions. if not tested immediately, remix the sample before testing.
POINT of CARE: POC CREATININE	Collect blood into a green top tube, plain syringe or lithium heparin syringe	Immediately remove any air drawn into the syringe. Mix the sample for 20 – 30 seconds by rolling the syringe vigorously between the palms in two different directions. if not tested immediately, remix the sample before testing.
POINT of CARE: POC GLUCOSE	Collect blood into a green top tube, plain syringe or lithium heparin syringe	Immediately remove any air drawn into the syringe. Mix the sample for 20 – 30 seconds by rolling the syringe vigorously between the palms in two different directions. if not tested immediately, remix the sample before testing.
POINT of CARE: POC HEMATOCRIT	Collect blood into a green top tube, plain syringe or lithium heparin	Immediately remove any air drawn into the syringe. Mix the sample for 20 – 30 seconds

TEST NAME	SPECIMEN REQUIREMENTS/ VACUUM TUBE SELECTION	SPECIMEN COLLECTION INSTRUCTIONS
	syringe	by rolling the syringe vigorously between the palms in two different directions. if not tested immediately, remix the sample before testing.
POINT of CARE: POC IONIZED CALCIUM	Collect blood into a green top tube, plain syringe or lithium heparin syringe	Immediately remove any air drawn into the syringe. Mix the sample for 20 – 30 seconds by rolling the syringe vigorously between the palms in two different directions. if not tested immediately, remix the sample before testing.
POINT of CARE: POC POTASSIUM	Collect blood into a green top tube, plain syringe or lithium heparin syringe	Immediately remove any air drawn into the syringe. Mix the sample for 20 – 30 seconds by rolling the syringe vigorously between the palms in two different directions. if not tested immediately, remix the sample before testing.
POINT of CARE: POC SODIUM	Collect blood into a lithium heparin green top tube, plain syringe or lithium heparin syringe.	Immediately remove any air drawn into the syringe. Mix the sample for 20 – 30 seconds by rolling the syringe vigorously between the palms in two different directions. if not tested immediately, remix the sample before testing.
POINT of CARE: POC PROTIME	Specimen: 8 mcL drop capillary whole blood applied directly to the CoaguChek XS PT Test strip from the puncture site of the fingertip.	STAT ELIGIBLE EXPECTED VALUE PT=9.6-12.2 seconds INR=0.8-3.5
POTASSIUM	4 mL GREEN PST or RED/ SST Recommended specimen types: serum and plasma (lithium heparin). Avoid hemolysis.	
POTASSIUM- 24 HOUR URINE	Aliquot of a well mixed 24- hour urine collection in a Clean, dry, and clearly labeled container **Patient Preparation**: SEE URINE Chemistry- 24 hour for detailed collection instructions	Twenty-four-hour urine collection for potassium should be made without preservatives. Store at 2–8 °C or frozen for delayed analysis EXPECTED VALUE 25-125 mmol/24 hour
POTASSIUM-URINE	Clean, dry, and clearly labeled container	REFRIGERATE Cap tight and double bagged

TEST NAME	SPECIMEN REQUIREMENTS/ VACUUM TUBE SELECTION	SPECIMEN COLLECTION INSTRUCTIONS
	Patient Preparation: SEE URINE Chemistry- 24 hour for detailed collection instructions	
PROCALCITONIN	Red SST	The plasma separated can be stored at 2 - 8°C in stoppered tubes for up to 48 hours. Freeze at -25 + 6°C. for up to Six months
PROGESTERONE	RED/ SST Recommended specimen types: serum	Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection And are stable for 24 hours at room temperature, 7 days at 2—8° C. frozen for up to 3 months at -20° C or colder.
PROLACTIN	Recommended specimen types: serum, samples and controls stabilized with sodium azide cannot be used.	Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection and are stable for 24 hours at room temp., 7 days at 2—8° C. 3 months at -20° C or colder.
PROSTATIC SPECIFIC ANTIGEN, FREE PSA	4 mL RED/ SST Recommended specimen types: serum and plasma (lithium heparin). Samples and controls stabilized with sodium azide cannot be used	Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection and are stable for 24 hours at room temperature, 4 days at 2—8° C. frozen for up to 3 months at -20° C or colder.
PROSTATIC SPECIFIC ANTIGEN, PSA, FREE & TOTAL	4 mL RED/ SST Recommended specimen types: serum and plasma (lithium heparin). Samples and controls stabilized with sodium azide cannot be used	Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection and are stable for 24 hours at room temperature, 4 days at 2—8° C. frozen for up to 3 months at -20° C or colder.
PROSTATIC SPECIFIC ANTIGEN, PSA, SCREEN	4 mL RED/ SST Recommended specimen types: serum and plasma (lithium heparin). Samples and controls stabilized with sodium azide cannot be used	Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection and are stable for 24 hours at room temperature, 4 days at 2—8° C. frozen for up to 3 months at -20° C or colder.
PROSTATIC SPECIFIC ANTIGEN, PSA, TOTAL	4 mL GREEN PST Or RED/ SST Recommended specimen types: serum and plasma (lithium heparin). Samples and controls stabilized with sodium azide cannot be used	Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection and are stable for 24 hours at room temperature, 4 days at 2—8° C. frozen for up to 3 months at -20° C or colder.

TEST NAME	SPECIMEN REQUIREMENTS/ VACUUM TUBE SELECTION	SPECIMEN COLLECTION INSTRUCTIONS
PROTEIN, TOTAL,	4 mL GREEN PST Or RED/ SST Recommended specimen types: serum and plasma (lithium heparin).	Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection and are stable for 24 hours at room temperature, 7 days at 2—8° C. frozen for up to 3 months at -20° C or colder.
PROTEIN, 24- HOUR URINE	Aliquot of a well-mixed 24-hour urine collection in a Clean, dry, and clearly labeled container **Patient Preparation**: SEE URINE Chemistry- 24 hour for detailed collection instructions	Random urine specimens may be used but timed 24-hour specimens are preferred. No preservative is required during 24-hour collection, urine aliquots should be stored at 2 – 4 °C or frozen. EXPECTED VALUE < 149.1 mg/day
PROTEIN, Urine Random	Recommended specimen types: urine. Specimens stored at 4 °C with no additives are stable for at least three days.	Random urine specimens may be used but timed 24-hour specimens are preferred. No preservative is required during 24-hour collection, but thereafter urine aliquots should be stored at 2 – 4 °C or frozen.
	Patient Preparation: SEE URINE Chemistry- 24 hour for detailed collection instructions	
PROTEIN TOTAL, Fluid	Cup, syringe, vacuum bottle, clean, dry, and clearly labeled container. (dependent on specimen and collection method)	REFRIGERATE Cap tight and double bagged
PROTIME-INR Prothrombin Time/International Normalized Ratio (PT/INR)	Fill 90-100%-2.7 mL Light blue top (Na Citrate)	Short draws or clotted specimens MUST be redrawn. Testing done < **24 hours** of collection. Keep tube at room temperature, do not open, do not spin.
RAPID STREP A SCREEN	Using the Swab and a tongue depressor, collect the specimen by holding the patient's tongue down with the tongue depressor and rubbing the swab on the tonsils or any areas of inflammation. Signs of inflammation include pus drainage or redness in the back of the throat. Avoid contact with the tongue and sides of the mouth with the swab. It is recommended that swab specimens be processed as soon as possible after collection, however if a transport system swab is used it is stable for up to 24 hours.	STAT ELIGIBLE EXPECTED VALUE Negative

TEST NAME	SPECIMEN REQUIREMENTS/ VACUUM TUBE SELECTION	SPECIMEN COLLECTION INSTRUCTIONS
RED BLOOD CELL COUNT	Correctly filled 4 mL EDTA Lavender	
RENAL (Kidney) FUNCTION PANEL Glucose, BUN, Creat., Sodium, Potassium, Chloride, CO2, Calcium, Albumin, Phosphorus, Anion Gap, BUN/Creat Ratio, GFR, GFAA	4 mL GREEN PST Or RED/ SST Recommended specimen types: serum and plasma (lithium heparin).	Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection and are stable for 24 hours at room temperature, 7 days at 2—8° C. frozen for up to 3 months at -20° C or colder.
RESPIRATORY SYNCYTIAL VIRUS (RSV)	Submit nasopharyngeal secretions, obtained by aspiration or washings, in a leak-proof sterile plastic screw-capped container. Refrigerate. Obtain specimen using nasopharyngeal swabs. Immobilize the patient's head and insert a nasopharyngeal swab into the nostril to the posterior nares. Rotate and remove. Submit swab in a 2.5 mL sterile glass saline tube obtained from the laboratory. Refrigerate	STAT ELIGIBLE EXPECTED VALUE Negative
RESPIRATORY PANEL 2.1 Biofire®	Nasopharyngeal Swab (NPS) collected according to standard technique and immediately placed in up to 3 mL of transport media.	
RETICULOCYTE COUNT	Correctly filled 4 mL EDTA Lavender	Short draws or clotted specimens MUST be redrawn.
RHOGAM WORK-UP, RH IMMUNE GLOBULIN ANTEPARTUM, RhD	An EDTA tube should be collected no sooner than 1 hour after delivery of all products of conception to allow the fetal blood to mix thoroughly in the maternal circulation. The sample should be collected as soon as possible thereafter.	STAT ELIGIBLE EXPECTED VALUE Negative- 1 vial needed
RHEUMATOID FACTOR	4 mL GREEN PST Or RED/ SST	

TEST NAME	SPECIMEN REQUIREMENTS/ VACUUM TUBE SELECTION	SPECIMEN COLLECTION INSTRUCTIONS
	Recommended specimen types: serum or lithium heparinized plasma	
RUBELLA, IgG	Serum, Heparinized Plasma, EDTA Plasma	Test samples as soon as possible after collecting. Store samples at 2–8°C up to 7 days. Specimens may be stored on the clot. H. Freeze samples, devoid of red blood cells, at or below -20°C for longer storage.
RUBEOLA IMMUNE STATUS	Red top	Serum-Room temperature: 4 days Refrigerated: 7 days Frozen: 30 days
SALICYLATE	RED/ SST Recommended specimen types: serum	Complete clot formation before centrifugation. Separate serum from cells within two hours of collection and are stable for 24 hours at room temperature, 7 days at 2—8° C. 3 months at -20° C or colder.
SARS --SOFIA SARS ANTIGEN	Nasopharyngeal Swab--Use the swab provided in the kit or a nylon flocked swab. Both nostrils must be swabbed. Carefully insert the swab into the first nostril. Keep the swab near the septum floor of the nose while gently pushing the swab into the posterior nasopharynx. Rotate the swab several times then remove it from the nasopharynx. Repeat on the second nostril. Place the inoculated swab into a sterile non-additive transport tube. DO NOT return the swab to the original wrapper. No Viral Transport Media (VTM) permitted. Test samples as soon as possible after collection. Swabs are stable for up to 48-hours at room temperature or 2° to 8°C.	STAT ELIGIBLE EXPECTED VALUE Negative
SCABIES, ORGANISM ID	Scrape the infected skin with a sharp scalpel and a drop of mineral oil by pinching the fold of skin and scraping the crest of the fold several times in the same direction. 2. Place the scrapings onto a glass slide containing mineral oil. Coverslip and place the slide into a slide holder. 3. Transport at room temperature	
SEMEN ANALYSIS,	Clean, dry, and clearly labeled container	

TEST NAME	SPECIMEN REQUIREMENTS/ VACUUM TUBE SELECTION	SPECIMEN COLLECTION INSTRUCTIONS
COMPLETE	**Patient Preparation: By appointment only.** Call the lab for collection instructions.	
SICKLE CELL TEST	Correctly filled 4 mL EDTA Lavender	Short draws or clotted specimens MUST be redrawn.
SODIUM	4 mL GREEN PST Or RED/ SST Recommended specimen types: serum or lithium heparinized plasma	Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection and are stable for 24 hours at room temperature, 7 days at 2—8° C. frozen for up to 3 months at -20° C or colder.
SODIUM, 24-hour Urine	Aliquot of a well-mixed 24-hour urine collection in a Clean, dry, and clearly labeled container **Patient Preparation**: SEE URINE Chemistry- 24 hour for detailed collection instructions	Twenty-four-hour urine collection for sodium should be made without preservatives. Store at 2–8 °C or frozen for delayed analysis EXPECTED VALUE Urine (40–220 mmol/24 hour)
SPECIFIC GRAVITY, URINE	Clean, dry, and clearly labeled container	REFRIGERATE Cap tight and double bagged
	Patient Preparation: SEE URINE Chemistry- 24 hour for detailed collection instructions	
STOOL, CLOSTRIDIUM DIFFICLE	C. Diff AG/Toxin. Collect in clean dry container and transfer to a leak-proof screw-capped container. Transport separately in biohazard zip-lock bag. Aliquoting of specimens should be performed separately. Aliquots may not be returned to the original container. b. Submit a liquid stool to the lab within 2 hours if not refrigerated. Store at room temp (21-27 °C) within two hours of collection (see Rejection Criteria above). c. Store for up to 24 hours or 3 days refrigerated (2-8°C). d. Specimens that will not be tested within these time frames must be frozen immediately upon receipt and stored at ≤-20°C for seven days prior to testing. Specimens may be frozen and thawed once. e. Patients should be over 6 months in age, have a history	24 hours EXPECTED VALUE Negative

TEST NAME	SPECIMEN REQUIREMENTS/ VACUUM TUBE SELECTION	SPECIMEN COLLECTION INSTRUCTIONS
	of antibiotic therapy and significant diarrhea.	
STOOL for LACTOFERRIN, White Blood Cell	Collect fecal specimens in a clean, airtight container with no preservatives. Specimens should be stored at 2-8°C or room temperature for up to 2 weeks from time of collection then stored frozen at -20°C or lower.	
SYPHILIS IGG ANTIBODY	Human serum and plasma (EDTA, lithium-heparin, sodium-heparin, citrate).	
TB QUANTIFERON	Call lab for tubes	**DO NOT REFRIGERATE** **DO NOT SPIN**
TESTOSTERONE (Total, MS, Free Testosterone, Bioavailable Sex Hormone Binding Globulin (SHBG) Albumin)	Serum collected in a red-top tube **(no gel)**	Room temperature: 7 days Refrigerated: 21 days Frozen: 60 days
THINPREP, FEMALE	CERVIX: a. Use the APTIMA Specimen Transfer Kit (green tube). 1 mL of ThinPrep specimen is placed in the APTIMA Tube. b. Place specimen in a ziplock bag (one specimen per ziplock). The specimen may be refrigerated or left at room temperature before being packaged for shipment. Thin layer preparations of body cavity fluids are made on the T2000 processor for the detection of cancer cells.	• Specimens shipped everyday, Monday through Friday. EXPECTED VALUE None seen

TEST NAME	SPECIMEN REQUIREMENTS/ VACUUM TUBE SELECTION	SPECIMEN COLLECTION INSTRUCTIONS
THEOPHYLLINE (Aminophylline, Slophylline, Tedral)	4 mL GREEN PST Or RED/ SST Recommended specimen types: serum or lithium heparinized plasma	
THERAPEUTIC PHLEBOTOMY	**Patient Preparation**: Due to necessary monitoring of the patient throughout the procedure, therapeutic phlebotomies are performed by appointment only. Patients more than 10 minutes late may have to be rescheduled. The attending provider assumes responsibility for the decision to request that therapeutic phlebotomy be performed on the patient if diagnosis, symptoms and preset criteria have been met prior to initiating the request. The physician will determine criteria for the phlebotomy and the laboratory will perform required testing to ensure that patient meets these requirements. Example: Perform phlebotomy (450 mL) if patient's hematocrit is greater than 48%. Laboratory will perform testing and if criteria are met the phlebotomy will be performed as ordered. General qualifications for blood donation: 1. Patient must weigh at least 110 lbs. 2. Patient is 17 years of age or older 3. Hgb is ≥ 11 g/dL 4. Hct is ≥33% 5. Donor temperature is not to exceed 99.5° F	Routine EXPECTED VALUE Physician and Patient dependent

TEST NAME	SPECIMEN REQUIREMENTS/ VACUUM TUBE SELECTION	SPECIMEN COLLECTION INSTRUCTIONS
	6. Pulse is 50-100 beats per minute 7. Blood pressure is >90/50 and <180/100 The following patients must have Medical Director approval prior to donation: Patients with a myocardial infarction within the past 3 months History of unstable angina Hemoglobin and or hematocrit out of acceptable range.	
THYROGLOBULIN (TG, Thyroid Cancer Monitoring)	Serum-Red Top **Patient Preparation:** Dietary supplements containing biotin may interfere in assays and may skew results to be either falsely high or falsely low. For patients receiving the recommended daily doses of biotin, draw samples at least 8 hours following the last biotin supplementation. For patients on mega-doses of biotin supplements, draw samples at least 72 hours following the last biotin supplementation.	
THYROXINE BINDING GLOBULIN (TBG)	Serum	Complete clot formation before centrifugation. Room temperature: 7 days Refrigerated: 7 days Frozen: 28 days
	Patient Preparation: Dietary supplements containing biotin may interfere in assays and may skew results to be either falsely high or falsely low. For patients receiving the recommended daily doses of biotin, draw samples at least 8 hours following the last biotin supplementation. For patients on mega-doses of biotin supplements, draw samples at least 72 hours following the last biotin supplementation.	
TIBC-TOTAL IRON BINDING CAPACITY	Recommended specimen types: serum and plasma (lithium and/or sodium heparin). Do not use EDTA plasma.	Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection. Samples should be stored at 4 °C

TEST NAME	SPECIMEN REQUIREMENTS/ VACUUM TUBE SELECTION	SPECIMEN COLLECTION INSTRUCTIONS
		for up to 7 days and may be frozen at -20 °C for up to 6 months.
TISSUE EXAM BY PATHOLOGIST	Tissue specimen in a sterile cup, no swab	
TOBRAMYCIN, PEAK	4 mL GREEN PST Or RED/ SST Recommended specimen types: serum or plasma (lithium heparin).	Note last dose COLLECTION TIME DEPENDS ON ROUTE OF ADMINISTRATION SPIN/ REFRIGERATE
TOBRAMYCIN, RANDOM	4 mL GREEN PST Or RED/ SST Recommended specimen types: serum or plasma (lithium heparin).	Note last dose Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection and are stable for 24 hours at room temperature, 7 days at 2—8° 3 months at -20° C or colder.
TOBRAMYCIN, TROUGH	4 mL GREEN PST Or RED/ SST Recommended specimen types: serum or plasma (lithium heparin).	Collect just prior to next dose
TOTAL/ DIRECT BILIRUBIN	4 mL GREEN PST Or RED/ SST Recommended specimen types: serum or plasma (lithium heparin).	Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection Bilirubin is extremely photosensitive. Protect sample from both daylight and fluorescent light to avoid photodegradation. Samples should be stored at 4 °C and analyzed within 5 days.
TOTAL PROTEIN	4 mL GREEN PST Or RED/ SST Recommended specimen types: serum or plasma (lithium heparin).	Complete clot formation before centrifugation. Separate Serum or plasma from cells within two hours of collection and are stable for 24 hours at room temp., 7 days at 2—8° C. 3 months at -20° C or colder
TOTAL T4	4 mL GREEN PST Or RED/ SST Recommended specimen types: serum or plasma (lithium heparin).	Complete clot formation before centrifugation. Separate Serum or plasma from cells within two hours of collection are stable for 24 hours at room temperature, 7 days at 2—8° C. frozen for up to 3 months at -20° C or colder
TRANSFERRIN	Serum, lithium heparinized plasma, sodium heparinized plasma, EDTA plasma or urine	Complete clot formation before centrifugation. Separate Serum or plasma from cells within two hours of collection and

TEST NAME	SPECIMEN REQUIREMENTS/ VACUUM TUBE SELECTION	SPECIMEN COLLECTION INSTRUCTIONS
		are stable for 24 hours at room temperature, 7 days at 2—8° C. frozen for up to 3 months at -20° C or colder.
TRANSFUSE CRYOPRECIPITATE TRANSFUSE- FRESH FROZEN PLASMA	After the patient is banded, Correctly filled pink top tube After the patient is banded Correctly filled pink top tube	Blood specimen must be collected, and type and screen must be performed. Verify that the patient has a type and screen performed on current admission Blood specimen must be collected, and a type and screen performed. A confirmation ABO/Rh must be tested. The recipient patient must have a type and screen and previous ABO/Rh performed during the current hospital admission
TRANSFUSE- PLATELETS	After the patient is banded, Correctly filled pink top tube	The recipient patient must have a type and screen and previous ABO/Rh performed during the current hospital admission. If not, a blood specimen must be collected, and a type and screen performed. A confirmation ABO/Rh must be tested.
TRANSFUSE- RED BLOOD CELLS	After the patient is banded, correctly filled pink top tube	Blood specimen must be collected, and a type and screen performed. A confirmation ABO/Rh must be tested. The recipient patient must have a type and screen and previous ABO/Rh performed during the current hospital admission
TRANSFUSION REACTION WORK-UP	Pre-transfusion blood sample and Post -transfusion EDTA blood sample	
TRANSFUSE- RED BLOOD CELLS	After the patient is banded, correctly filled pink top tube	Blood specimen must be collected, and a type and screen performed. A confirmation ABO/Rh must be tested. The recipient patient must have a type and screen and previous ABO/Rh performed during the current hospital admission
TRANSFUSION RELATED ACUTE LUNG INJURY (TRALI) WET PREP	Pre-transfusion blood sample and Post -transfusion EDTA blood sample Vaginal secretions are obtained from the posterior fornix using a sterile swab during a speculum examination and placed in BBL Stuarts transport media. a. Specimens should be transported at room temperature. Male urethral swabs may NOT be used in this system. Alternately, in	STAT ELIGIBLE

TEST NAME	SPECIMEN REQUIREMENTS/ VACUUM TUBE SELECTION	SPECIMEN COLLECTION INSTRUCTIONS
	males, a wet prep on sediment from 15 mL of "dirty" voided urine can be used. a. Specimens should be transported at room temperature and received in the lab within an hour of collection. Do Not refrigerate.	
TRANSFUSION RELATED ACUTE LUNG INJURY (TRALI)	Pre-transfusion blood sample and Post -transfusion EDTA blood sample	EXPECTED VALUE Negative
TRIGLYCERIDE	4 mL GREEN PST Or RED/ SST Recommended specimen types: serum or plasma (lithium heparin).	
TRIGLYCERIDE-FLUID	Cup, syringe, vacuum bottle, clean, dry, and clearly labeled container. (dependent on specimen and collection method)	REFRIGERATE Cap tight and double bagged
TROPONIN I, HIGH SENS	4 mL GREEN PST Recommended specimen types: plasma (lithium heparin).	Plasma should be separated from cells within two hours of collection and are stable for 24 hours at room temperature, 7 days at 2—8° C. frozen for up to 3 months at -20° C or colder.
TSH-THYROID STIMULATING HORMONE	4 mL GREEN PST Or RED/ SST Recommended specimen types: serum or plasma (lithium heparin	Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection and are stable for 24 hours at room temperature, 7 days at 2—8° C. frozen for up to 3 months at -20° C or colder.
TSH W/REFLEX TO FRT4	4 mL GREEN PST Or RED/SST Recommended specimen types: serum or plasma (lithium heparin	Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection and are stable for 24 hours at room temperature, 7 days at 2—8° C. frozen for up to 3 months at -20° C or colder.
TYPE & SCREEN Blood type and unexpected antibody screen	Patient must be arm banded; correctly filled pink top tube	
URIC ACID	4 mL GREEN PST	Complete clot formation before

TEST NAME	SPECIMEN REQUIREMENTS/ VACUUM TUBE SELECTION	SPECIMEN COLLECTION INSTRUCTIONS
	Or RED/ SST Recommended specimen types: serum or plasma (lithium heparin	centrifugation. Serum or plasma should be separated from cells within two hours of collection and are stable for 24 hours at room temperature, 7 days at 2—8° C. frozen for up to 3 months at -20° C or colder.
URIC ACID, FLUID	Cup, syringe, vacuum bottle, and clearly labeled container. (dependent on specimen and collection method)	Cap tight and double bagged
URIC ACID, URINE RANDOM	2 ml urine Clean, dry, and clearly labeled container	REFRIGERATE Cap tight and double bagged
URIC ACID, URINE 24 HOUR	Aliquot of a well-mixed 24-hour urine collection in a clean, dry, and clearly labeled container **Patient Preparation**: SEE URINE Chemistry- 24 hour for detailed collection instructions	REFRIGERATE Cap tight and double bagged Urine: 250–750 mg/24 hours [0.89–5.89 mmol/24 hours]
URINALYSIS- (Dip) color, clarity, glucose, bilirubin, ketone, specific gravity, blood, urobilinogen, nitrate, leukocyte esterase	15 mL urine, gray urine preserve vacutainer, AND yellow urine vacutainer transport tube Or Sterile cup	CLEAN CATCH PREFERRED REFRIGERATE Cap tight and double bagged
	Patient Preparation: SEE URINE Chemistry- 24 hour for detailed collection instructions	
URINALYSIS REFLEX TO CULTURE- Dip + Culture	15 mL urine, gray urine preserve vacutainer, AND yellow urine vacutainer transport tube Or Sterile cup	Clean catch preferred REFRIGERATE
URINALYSIS WITH MICROSCOPIC/REFLEX TO MICROSCOPIC- Dip + WBC, RBC, Epi cells, Bacteria	15 mL urine, gray urine preserve vacutainer, AND yellow urine vacuum transport tube Or Sterile cup	Clean catch preferred REFRIGERATE Cap tight and double bagged
URINE CYTOLOGY	5ml Urine Cup	
URINE	Yellow urine vacutainer transport tube	Clean catch preferred REFRIGERATE

TEST NAME	SPECIMEN REQUIREMENTS/ VACUUM TUBE SELECTION	SPECIMEN COLLECTION INSTRUCTIONS
MICROSCOPIC ONLY	Or Sterile cup	Cap tight and double bagged
URINE UREA NITROGEN	Clean, dry, and clearly labeled container	REFRIGERATE Cap tight and double bagged
URINE UREA NITROGEN- 24 HOUR	Aliquot of a well-mixed 24-hour urine collection in a clean, dry, and clearly **Patient Preparation**: SEE URINE Chemistry- 24 hour for detailed collection instructions	Collect a 24-hour urine specimen for urine urea nitrogen measurement. Urine urea nitrogen is stable at 4-8 °C for 4 days or when preserved with thymol to avoid bacterial action. EXPECTED VALUE 12–20 g/24 hours
VALPROIC ACID (Depakene, Epival) Valproic Acid, Free (Depakene, Free)	4 mL GREEN PST Or RED/ SST Recommended specimen types: serum or plasma (lithium heparin	Note last dose Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection and are stable for 24 hours at room temperature, 7 days at 2—8° C. frozen for up to 3 months at -20° C or colder.
	Patient Preparation: SEE URINE Chemistry- 24 hour for detailed collection instructions	
VANCOMYCIN, PEAK	4 mL GREEN PST Or RED/ SST Recommended specimen types: serum or plasma (lithium heparin	Note Last Dose COLLECTION TIME DEPENDS ON ROUTE OF ADMINISTRATION SPIN/ REFRIGERATE
VANCOMYCIN, RANDOM LEVEL	4 mL GREEN PST Or RED/ SST Recommended specimen types: serum or plasma (lithium heparin	Note last dose Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection and are stable for 24 hours at room temperature, 7 days at 2—8° C. frozen for up to 3 months at -20° C or colder.
VANCOMYCIN, TROUGH	Recommended specimen types: serum or plasma (lithium heparin	Collect just prior to next dose
VARICELLA ZOSTER	SST Or Gold/Red	Spin/Refrigerate

TEST NAME	SPECIMEN REQUIREMENTS/ VACUUM TUBE SELECTION	SPECIMEN COLLECTION INSTRUCTIONS
VITAMIN A (Retinol)	Serum- Protected from light	Room temperature: 24 hours Refrigerated: 7 days Frozen: 28 days
VITAMIN B 12	4 mL GREEN PST Or RED/ SST protected from light Recommended specimen types: serum or plasma (lithium heparin	Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection and are stable for 24 hours at room temperature, 7 days at 2—8° C. frozen for up to 3 months at -20° C or colder.
VITAMIN D (25 Hydroxy)	4 mL GREEN PST Or RED/ SST Recommended specimen types: serum or plasma (lithium heparin	Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection and are stable for 24 hours at room temperature, 7 days at 2—8° C. frozen for up to 3 months at -20° C or colder.
VITAMIN D3 (Vitamin D 1,25, D3)	RED/ SST Recommended specimen types: serum or plasma (lithium heparin	Complete clot formation before centrifugation. Serum or plasma should be separated from cells within two hours of collection nd are stable for 24 hours at room temperature, 7 days at 2—8° C. frozen for up to 3 months at -20° C or colder.
WHITE BLOOD CELL COUNT AND DIFFERENTIAL	Correctly filled 4 mL EDTA Lavender	Short draws or clotted specimens MUST be redrawn.
WET PREP	Vaginal secretions are obtained from the posterior fornix using a sterile swab during a speculum examination and placed in BBL Stuarts transport media. Male urethral swabs may NOT be used in this system. Alternately, in males, a wet prep on sediment from 15 mL of clean voided urine can be used. All collections should be transported at room temperature. Do not refrigerate. Male urines must be received in the lab within an hour of collection.	Stats-< 60 minutes, Routines-<24 hours EXPECTED VALUE: Source dependent
ZINC	2 mL plasma collected in an EDTA or sodium heparin (royal blue-top) tube	Plasma should be separated from cells within two hours of collection and are stable for 24

TEST NAME	SPECIMEN REQUIREMENTS/ VACUUM TUBE SELECTION	SPECIMEN COLLECTION INSTRUCTIONS
		hours at room temperature, 7 days at 2—8° C. frozen for up to 3 months at -20° C or colder.