

Policies and Procedures—Little Company of Mary Hospital and Health Care Centers

The laboratory provides full services to meet our patients needs. Emergency laboratory services are available 24 hours per day, 7 days per week.

Analytical Methods

Changes in methods described in laboratory procedure manuals may not be made unless authorized by the laboratory or section director. These manuals are open to inspection by all medical staff members.

Charges and Credits

Charges for laboratory tests are approved by the Board of Directors. Discounts must be approved by the Director of Finance or the Chief Executive Officer.

Clinical Information

At times, additional information is needed to proceed with the test ordered or to interpret the result. It might be a statement about specimen source, patient's drug intake, clinical diagnosis, etc. If this kind of information is not included on requisition slip or made known to a departmental medical staff member, then performance or reporting of test may be delayed.

Confidentiality and Release of Patient Information

The Department of Laboratory Medicine and Pathology at Little Company of Mary Hospital and Healthcare Centers will use and disclose protected health information to carry out treatment, payment, and/or healthcare operations and for those purposes permitted by law. The laboratory will abide by the terms of the US Department of Health and Human Services Office for Civil Rights Standards for Privacy of Individually Identifiable Health Information (45CFR Parts 160-164) as applicable to the laboratory.

Patient results/reports will be disclosed to practitioners who ordered them and/or to alternates authorized by them. For practical purposes, physician office personnel and nursing personnel are authorized alternates, as are certain hospital contract physicians, house physicians, and residents who may have assumed responsibility for the patient. Report information will include patient demographics.

Fasting Specimens

Reference to a "fasting specimen" or "fast" usually means no food ingested for 8 hours, but no less than 2 to 3 hours before specimen is obtained. Unless specifically prohibited in the procedure, normal water intake is permitted. Tests involving measurement of triglycerides and lipoproteins require strictly

observed fasts of 12 to 14 hours.

Medical-Legal Testing

The laboratory does not perform tests or examinations for forensic purposes.

Ordering Tests

The laboratory accepts requests for tests from practitioners currently licensed in Illinois under the Medical, Dental, or Podiatry Practice Act, or from others who are authorized to order laboratory tests by the Departmental Chairman or Vice President of Medical Affairs according to policies approved by the medical staff and Board of Directors (Ref. Hospital Licensing Requirements Rule (3-3) (b), Illinois Department of Public Health). An order must be written or electronic, signed, and dated by the physician initiating it and the original kept in the electronic chart, medical chart or laboratory file. When a test not listed in the test manual is needed, consult a departmental medical staff member or supervisor.

NOTICE TO PHYSICIANS: When ordering tests for which Medicare reimbursement will be sought, physicians (or other individuals authorized by law to order tests) should only order tests that are medically necessary for the diagnosis or treatment of the patient, and not for screening.

Laboratory testing is deemed Medically Necessary by Medicare if the test is "reasonable and necessary for the diagnosis or treatment of illness or injury or to improve the functioning of a malformed body member."

Any other use of laboratory testing is considered screening. Screening does not always denote that the ordered test is unnecessary or poor medical practice. Screening tests cannot be directly linked to an established diagnosis, sign, or symptom.

In order to establish Medical Necessity, the test order must be accompanied by the appropriate diagnostic information that justifies the test order. This information should be submitted in the form of an ICD-9 code or narrative diagnosis.

Reference Laboratories

Only those reference laboratories specifically approved by the medical staff and Board of Directors may be utilized. These reference laboratories have been approved for use: Coagulation Consultants, Quest Diagnostics, Mayo Medical Laboratory, Heartland Blood Centers, Illinois Department of Public Health, Neogenomics, Bostwick Lab, Agendia, Genomic Health, Myriad Genetics, and Response Genetics.

When a requested referral test is available at 1 of these approved referral labs, the test must be performed at approved laboratory, regardless of special requests. When a specialized test is requested that is *not* available from any of the approved laboratories, efforts will be made to obtain testing. In all other cases of directed requests or "research" requests, it is the responsibility of ordering physician to arrange for specimen transport and payment.

Reflex Testing

The Department of Laboratory Medicine and Pathology at Little Company of Mary Hospital and Health Care Centers will perform reflex tests automatically when the initial test result meets the criteria for prompting a reflex test.

The Department of Laboratory Medicine and Pathology will bill the reflex tests it performs using CPT-4 code(s). The physician has the option of ordering the initial test without the reflex test. Whenever an initial test is subject to a reflex test, please consider whether the reflex test is medically necessary for that particular patient. If reflex test is unnecessary, please order on initial test and indicate that reflex test should NOT be performed. Please be advised that the Office of the Inspector General of the Department of Health and Human Services takes the position that a physician who orders medically unnecessary tests for which Medicare reimbursement is claimed may be subject to civil penalties.

Reports

Laboratory tests are routinely reported via computer or printed report. All printed reports will include at least patient identifying information received with specimen, result, date and time received and reported, and, if necessary, units or reference values, interpretations, and pertinent comments.

A physician or licensed caregiver will be notified immediately by telephone, if possible, under the following circumstances:

- Result of a test is critical as defined in "Critical Test Values," or if results are considered very unusual
- Physician has requested to be informed at once
- Specimen cannot be obtained
- Patient's preparation was not satisfactory
- Report will be unexpectedly delayed

Research Projects

The laboratory does not participate in research programs initiated outside the department.

Routine Admission Orders

Currently, no routine (ie, automatic) admission laboratory test order protocols are in effect.

Specimen Identification

Every specimen delivered to the laboratory must be in a tightly-closed container. Every specimen must be labeled at time of collection. The label must have 2 forms of patient identification. All specimens must have a legible, completed requisition form. The requisition must include patient's full name, age/dob, sex, location, date and time specimen was obtained, the test required, diagnosis and signature of physician authorizing it.

Specimen Quality

Only fresh and properly preserved specimens will be accepted for analysis and examination. The laboratory assumes that the method of collection and patient preparation was correct for each specimen received, ie, performed according to policies and procedures published in the departmental test catalog. General criteria for rejecting a blood specimen submitted for testing are:

- Duplicate specimens with respect to patient name, test, and time collected
- Severe lipemia or hemolysis
- Clots in anticoagulated blood
- Insufficient quantity (multiply amount of serum or plasma needed by 2.5 to estimate amount of whole blood required)
- Improper container or preservative
- Improper specimen collection or storage
- Improperly labeled specimen (ie, tubes with no name, no test ordered, not double identified, etc.)

Specimen Sources

Only tissue, blood, fluid, and other material removed from or excreted by human beings will be accepted for analysis with the exception of material examined for the Infection Control and Quality Assurance Programs.

Specimen Transport

In accordance with CLIA '88 regulations, all specimens sent to the laboratory, including specimens from doctor's offices, care stations, radiology, etc., must be transported in closed, plastic BIOHAZARD bags. An accompanying requisition form must be firmly attached to the external surface of the bag.

Pathology

Autopsy

General Policies: A request for an autopsy will generally be accepted if the following conditions are met:

- The deceased was admitted to Little Company of Mary Hospital at time of death
- Investigation of cause of death *does not* fall under jurisdiction of the Cook County Medical Examiner (see "Medical Examiner's Cases" below)
- A valid autopsy consent, as described below, has been received
- See "Patient Care Services, Expiration Procedure" for additional information.

Selection of Cases for Autopsy: The medical staff at Little Company of Mary Hospital believes that autopsies are useful to improve and enhance patient care. In general, autopsies may be helpful to:

- Find the probable cause of death
- Corroborate or correct antemortem clinical diagnoses
- Help reconstruct the sequence of major pathophysiological events leading to death
- Inform and educate staff physicians concerned with care of deceased patient
- Provide data for hospital Performance Improvement and Medical Education Programs

As approved by the Medical Executive Committee, a postmortem examination should be encouraged in the following specific circumstances:

- Unexpected or unexplained deaths that are apparently natural and *not* subject to the jurisdiction of the Medical Examiner's Office and cause of death is not known with reasonable certainty on clinical grounds
- Deaths in which autopsy may help to explain unknown and unanticipated medical complications
- Deaths in which autopsy may help to allay concerns of and provide reassurance to the family or would disclose a known or suspected illness that may have a bearing on survivors or recipients of transplanted organs
- Deaths which are unexpected or unexplained during or following any dental, medical, or surgical diagnostic procedures and/or therapies
- Obstetric deaths
- Natural deaths on inpatients that are subject to, but waived by, Medical Examiner's Office, such as persons

dead on arrival at hospital; deaths occurring in hospital within 24 hours of admission or following a surgical procedure; and deaths in which patient sustained or apparently sustained an injury while hospitalized

Medical Examiner's Cases: Whenever a person dies of causes involving any degree of "accident, casualty, medical attention" while undergoing surgery or during anesthesia, the case must be referred to the office of Medical Examiner for disposition. This definition is very broad and places many deaths under the jurisdiction. A more detailed list of these cases is available on request. If Medical Examiner should choose not to have an autopsy done or investigate further the circumstances of death, the case technically remains within his jurisdiction.

Permission: Permission to perform an autopsy requires a properly completed consent form signed by next of kin with legal authority to grant permission *and* at least 1 witness. When permission is granted by telephone, 2 witnesses must attest by signature that they heard the person identified on the consent form as next of kin, give permission for the autopsy.

Only persons listed below, *in the order of the listing*, have power to authorize autopsy:

- Agent under a durable power of attorney for health care (unless power of attorney excludes autopsy permission) or other advance directive
- Surviving spouse (even if estranged or separated)
- Adult (> or =18 years of age) son or daughter
- Either parent
- Adult brother or sister
- Other adult relative
- Close friend by affidavit

Where 2 or more persons have an equal right to sign the consent, authorization of only 1 is required, provided that all are notified of decision and have reasonable opportunity to object. If, however, any 1 of the persons in this class objects to the autopsy, it may not be performed. If the deceased is known to have advance directives regarding disposition of his/her body or any of its parts which is in conflict with the autopsy, the autopsy should not be executed.

The power to authorize an autopsy on a child (minor) resides with *both* parents. If divorced, the power to authorize an autopsy resides with the parent who has legal custody. It is generally unwise to proceed with postmortem examination of a child without written consent from *both* parents.

Any limitations to the autopsy should be clearly listed on the permission and will be strictly adhered to by the pathologist. All refusals to grant permission for an autopsy should be documented in the physician/nursing notes.

Autopsies on Stillborn and Aborted Fetuses: Examination of all fetuses that have a weight $\geq$ 500 g, are $\geq$ 28 cm long (crown-heel), and/or have a gestational age of $\geq$ 20 weeks is performed by postmortem examination. For fetuses $<$ 500 g, $<$ 28 cm long (crown-heel), or $<$ 20 weeks of gestational age, it is preferable to examine the body as a routine surgical specimen. Under these circumstances it is not necessary to have an autopsy permit. If there is a question, consult a pathologist.

Rejection of a Request for Autopsy: Request for an autopsy, in which a valid consent is obtained, may be rejected for the following reasons:

- The presence of certain infectious diseases in the body which are believed to present a significant threat to prosecutor and assistant (eg, suspected or known cases of HIV, tuberculosis, Jakob-Creutzfeldt disease, and undiagnosed encephalopathies), and for which inadequate protective facilities are available
- Recent premortem injection or deposit of therapeutic doses of radioisotopes

Autopsies on Patients Who Die Outside of the Hospital: It is the general policy of the hospital that autopsies are *not* done on patients who die outside the hospital except when patient had recently, previously been treated at Little Company of Mary Hospital or was under the care of a member of the medical staff. In all cases, special permission must be obtained from a pathologist and the next of kin must provide a signed, witnessed consent form as outlined above. Additionally, appropriate clinical records and information must be provided.

Time Schedules: While every effort will be made to complete the autopsy in a timely manner and to accommodate the needs of deceased's family regarding funeral arrangements, some complex cases may require additional time. In general, once a properly executed permit is obtained, most autopsies will be completed within 48 hours, excluding weekends and holidays.

Reports: A report of preliminary diagnosis based on gross examination will be prepared for the medical record and attending physicians and issued within 24 to 48 hours after the autopsy is completed. Final reports will be issued 30 days after

the autopsy is completed unless special circumstances require extended study. Copies of the autopsy report for relatives of the deceased who granted permission to do the postmortem examination can be obtained by written request to the Medical Record Department at Little Company of Mary Hospital.

The autopsy findings will be incorporated into the hospital-wide Medical Performance Improvement and Continuing Medical Education Programs.

Cytopathology—Cervicovaginal (Pap) Smears

The laboratory processes specimens submitted for the ThinPrep® Pap Test™ preparation technique. See the respective tests for individual details.

Cytopathology—Fine-Needle Aspiration (FNA)

A staff pathologist is available to perform FNA biopsies on all superficial, palpable masses. Procedures requiring radiologic guidance should be arranged for through Radiology. Please call 708-229-5817 to schedule an appointment.

Intraoperative Consultation (Frozen Section)

When an intraoperative consultation on a specimen is required, tissue should be submitted to the laboratory fresh with accompanying requisition indicating a frozen section is requested. A pathologist is routinely available for intraoperative consultation and immediate examination of surgically removed tissue daily (Monday-Friday, excluding Holidays) from 7:30 a.m. to 4:30 p.m. At other times when it is anticipated a frozen section may be needed, the pathologist on call will respond to requests and should be contacted with as much advance notice as possible.

Outside Consultations

The Department of Laboratory Medicine and Pathology is the legal custodian of all material submitted for examination, including gross tissue, histologic and cytologic microscopic slides, and paraffin blocks. This material is retained for the time specified in the current *Test Catalog* (see "Record and Specimen Retention Guidelines" in "General Information"). Because this material is the primary source on which interpretations and diagnoses are based, the pathologists and the hospital have an equal interest in maintaining the integrity of this material. However, the patient has a right to "benefit" from this material. The following guidelines aim to fairly serve the interests of all concerned parties.

Consults Initiated by a Staff Pathologist: A staff pathologist may ask for a consultation from an outside source primarily for diagnostic/confirmatory purposes and/or to augment diagnostic data with tests or procedures not available in the laboratory. The primary source of consultation is Mayo Medical Laboratories. The policy is in place to promote efficiency and reduce chance of error that might result from use of multiple consultants. Other consultants may be utilized, at the discretion of pathologist.

Consults Requested by Clinicians or Patients (Second Opinion): If a clinician or patient wishes to obtain an outside consultation, a properly completed waiver (release) form must be completed and signed by patient or his/her guardian before reports or materials can be distributed. Name and address of the physician to whom material is to be sent are required. Material is generally not given directly to patient, but sent to physician designated in release form or, if under subpoena, to designated party.

In general, original materials (histologic and cytologic slides and paraffin blocks) are always retained in the laboratory. For histology specimens, recut slides are made and reviewed by the pathologist to confirm that they show the same features as the "original" slides. Material that cannot be duplicated (such as small biopsies, Pap smears, and other cytology specimens) is sent with a special letter reminding recipient to return material promptly. All material that is sent out is carefully monitored and followed-up so that integrity of laboratory's files is maintained.

Legally motivated requests are handled in a similar fashion, but attorneys for the hospital and the pathologists' insurance carrier are notified before any action is taken.

Routine Surgical Pathology

General Policies: All tissue (excluding some placentas, foreign bodies, medical devices, and calculi) surgically removed from hospital patients must be sent to Surgical Pathology with an appropriately completed surgical pathology requisition. When foreign bodies or medical devices are removed and not sent to Pathology, their removal and disposition must be clearly documented in the medical record. Special analyses are performed as required. The report and other information about every specimen received is archived within the computer system for quick retrieval and report generation.

Written reports are routinely issued within 24 hours of specimen receipt. Exceptions to this include those specimens received on Saturday, Sunday, the day before a holiday, or too late in the afternoon for adequate fixation to take place prior to

processing. In those instances where consultation, additional sections, or special stains and/or studies are needed, at discretion of consulting pathologist, a preliminary report will be issued with an explanation for the delay.

Fetus and Stillborn Examination: Examination of fetuses that have a weight $\geq$ 500 grams and are $\geq$ 28 cm long (crown-heel), and/or have a gestational age of $\geq$ 20 weeks is performed by postmortem examination; in these circumstances, a valid autopsy consent must be provided, as outlined below. For fetuses $<$ 500 grams, $<$ 28 cm long (crown-heel), or $<$ 20 weeks of gestational age, the body will be examined as a routine surgical specimen.

Fixation of Specimens: Routine pathology specimens should be placed in 10% neutral-buffered formalin, which is supplied. Volume of fixative should be at least 10 times the volume of specimen to be fixed. All fresh (unfixed) tissue should be clearly labeled as such on specimen requisition. For fresh specimens, see below. Specimens too big for available plastic containers should be placed into doubled biohazard bags before delivery to the laboratory. After double-bagging in biohazard bags, limbs and fetuses are put into the pathology designated refrigerator with requisition sent to laboratory.

Fresh (Unfixed) Specimens: Certain specimens should be sent to the laboratory immediately, unfixed. *Any specimen submitted fresh should be clearly labeled as such.* When specimen is submitted on gauze, only saline-moistened Telfa® pads should be used; dry gauze rapidly dehydrates tissue, seriously affecting histologic interpretation, and should *never* be used. These specimens include, but are not limited to the following:

- Tissue for possible frozen section examination
- Lymph nodes/thymus for diagnostic purposes
- Muscle and nerve biopsies
- Skin biopsies for immunofluorescence procedures (may also be submitted in special fixative supplied)
- Tissue for chromosome analysis
- Uteri removed for endometrial carcinoma

At the discretion of submitting physician, other circumstances may dictate fresh submission. Specimens should not be left unfixed overnight unless specifically directed to do so by a pathologist.

Special Surgical Pathology Procedures Certain procedures require notification of the pathology laboratory beforehand so that proper fixatives and other special

transport requirements can be arranged. Since many of these procedures also require immediate transportation to the testing facility, all specimens should be received in the laboratory before 1:30 p.m. These procedures include:

- Muscle biopsy
- Kidney (renal) biopsy
- Nerve biopsy
- Skin samples for immunofluorescence study
- Tissue for electron microscopy
- Bone marrow for leukemia immunophenotyping (flow cytometry)
- Skin for leukocyte immunophenotyping (mycosis fungoides, etc.)

For additional instructions, refer to the *Test Catalog* under specific procedures or contact laboratory for additional information.

Microbiology

Antimicrobial Testing

Most routine antimicrobial susceptibility testing is done on the Vitek 2 System, which is a micro dilution system measuring growth at 2 to 3 antimicrobial concentrations for each antibiotic.

Reports are given as S (sensitive), I (intermediate), or R (resistant) based on MIC "break points" defined in the most recent CLSI publications. MIC values for susceptibility tests are also reported.

Criteria for Rejecting Specimens Submitted for Microbiological Tests

For general criteria for rejection of specimens see "Specimen Quality" in "Policies and Procedures" in "General Information."

Additional criteria for rejecting a microbiology specimen are;

- Specimens submitted beyond the maximum number allowed
- Specimen container not intact, properly closed, or contaminated on its external surface
- Requests for culture of anaerobes on material from sites known to be normally contaminated or colonized by anaerobes
- Lack of clinical information (eg, exact source of specimen, type of viral culture wanted, etc.)
- Urinary catheter tips
- Inadequate quantity of specimen submitted
- Specimens not submitted in required transport media
- Improperly labeled specimen

Direct Microscopy

A Gram stain is performed routinely on material submitted for culture from the lower respiratory tract, male genital tract, wounds, cerebrospinal fluid, and other fluids. A Gram stain is not routinely performed on urine, feces, catheter tip, female genital tract, and blood cultures.

The laboratory must be notified that certain organisms are suspected clinically so that special stains and preparations will be selected appropriately (eg, acid-fast stains for mycobacteria, nocardia, cryptosporidia; KOH preparation for fungi; Giemsa and Wright stains for filaria and plasmodia; toluidine blue, Giemsa, silver methenamine for *Pneumocystis carinii*, etc.).

Darkfield examination is not offered.

Positive microscopy results on all cerebrospinal fluid and blood cultures are reported by telephone directly to the attending physician, consultant, or nursing staff.

General Instructions for Collection of Microbiology Specimens

Obtain specimen before antimicrobial therapy starts.

Collect material most likely to contain the infecting organism.

Collect specimen at the proper disease stage, which is usually the acute phase.

Obtain a sufficient quantity of specimen. This will depend on the infection suspected. Recall that larger specimens and repeated sampling are usually required to isolate acid-fast bacilli and fungi.

Collect specimen at a time it can be processed at once and deliver it in the appropriate transport media without delay. Microbiology Laboratory processes initial routine culture procedures from 6:30 a.m. to 8 p.m., Monday through Friday, from 6:30 a.m. to 4 p.m., Saturday and Sunday.

Supply sufficient clinical data so that correct culture media and procedures are selected by the laboratory.

General Rules and Procedures for Interpreting Antibody Titers in Infectious Disease

Collect serum for antibody titers during the early (acute) phase of the disease and during the late (convalescent) phase, ie, 3 to 4 weeks after the first specimen. Specimens will be tested together and reported.

A 4-fold increase in titer of the second specimen over the first one is strong evidence of a recent active infection.

In suspected congenital infections, obtain acute and convalescent serum from the mother and the infant. Absence of antibodies to the organism tested generally rules out congenital infection because antibodies in the infant are passively acquired and normally decay over 2 to 3 months postpartum. Maintenance of or an increase in antibody titer to the organism tested suggests active infection.

In almost all infections, a rise in the IgM component of the antibody response in 1 specimen strongly suggests recent infection with the organism against which the antibody is active.

Service Levels

Bacteriology service is classified as a Type 5 (definitive identification of organisms to the extent required for diagnosis and assistance in selection of therapy).

Mycobacterial service is classified as a Type 2 (isolation of mycobacteria only with identification provided by the reference laboratory). Mycobacterial antimicrobial sensitivity is only offered through the reference laboratory.

Mycology service is classified as Type 2 (identification to species level) for yeasts and Type 1 (isolation with identification by a reference laboratory) for molds.

Parasitology service is classified as Type 2 (definitive identification of all parasites to the extent required for diagnosis and assistance in selection of therapy).

Selected viral antigen testing is provided by the laboratory. Viral cultures and most viral serology tests are not offered except through reference laboratories. See "Virology" in "Microbiology" in "Special Instructions" for general guidance.

General Laboratory Section

Services

Chemistry and Subsections

Only qualitative analyses for drugs of abuse are done; reports are given as positive or negative.

- Chemistry
- Blood Gases
- Toxicology and Therapeutic Drug Monitoring
- Immunology

Hematology and Subsections

- Hematology
- Coagulation
- Diagnostic Immunology

Clinical Microscopy and Subsections

- Body Fluid Examination
- Urinalysis

Specimens

For general criteria for rejection of specimens, see "Specimen Quality" in "Policies and Procedures" in "General Information."

Instructions to prepare the patient and collect the specimen are specified for each test under its listing.

Therapeutic Drug Monitoring and Toxicology

The laboratory is not National Institute on Drug Abuse (NIDA) approved and does not conduct chain-of-custody procedures for collecting specimens to be analyzed for drugs of abuse.

Pharmacokinetic data given with reports are generic and not specific for the case. For specific information, the Pharmacy Department should be consulted.

Toxic levels given with reports are intended to be generic guidelines and should not be used as absolute values without reference to the specific clinical state and circumstances of each case.

Specimen Collection and Preparation

Laboratory test results are dependent on the quality of the specimen submitted. It is important that all specimens and request forms be properly labeled with name of patient, date of birth, collection date, and origin (source) of specimen, when applicable.

If there is any doubt or question regarding the type of specimen that should be collected, it is imperative that the laboratory be called to clarify the order and specimen requirements.

Blood Collection

Most laboratory tests are performed on anticoagulated whole blood, plasma, or serum. Please see our individual test directory section for specific requirements.

- **Plasma:** Draw a sufficient amount of blood with the indicated anticoagulant to yield the necessary plasma volume. Gently mix the blood collection tube by gently inverting 6 to 10 times immediately after draw. If required, separate plasma from cells by centrifugation within 20 to 30 minutes.
- **Serum:** Draw a sufficient amount of blood to yield the necessary serum volume. Gently mix the blood collection tube by gently inverting 8 to 10 times immediately after draw. Separate serum from clot by centrifugation within 20 to 30 minutes. Caution: avoid hemolysis.
- **Whole Blood:** Draw a sufficient amount of blood with the indicated anticoagulant. Gently mix the blood collection tube by inverting 6 to 10 times immediately after draw.

Specimen Collection Tubes Available

The following is a list of tubes referred to in Little Company of Mary Hospital's specimen requirements:

- **Blue-Top (Sodium Citrate) Tube:** This tube contains sodium citrate as an anticoagulant—used for drawing blood for coagulation studies.
Note: It is imperative that the tube be completely filled. The ratio of blood to anticoagulant is critical for valid prothrombin time results. Immediately after draw, invert tube 6 to 10 times in order to activate the anticoagulant.
- **Brown-Top Tube:** This plastic tube contains a spray-dried K2 EDTA—used for drawing blood in lead testing only.

- **Mini Green-Top (Lithium Heparin gel) Tube:** This tube contains lithium heparin—used for drawing heparinized plasma or whole blood for special tests.
Note: After tube has been filled with blood, immediately invert tube several times in order to prevent coagulation.
- **Green-Top (Sodium Heparin) Tube:** This tube contains sodium heparin—used for drawing heparinized plasma or whole blood for special tests.
Note: After tube has been filled with blood, immediately invert tube several times in order to prevent coagulation.
- **Grey-Top (Potassium Oxalate/Sodium Fluoride) Tube:** This tube contains potassium oxalate as an anticoagulant and sodium fluoride as a preservative—used for some chemistry tests.
Note: After tube has been filled with blood, immediately invert tube several times in order to prevent coagulation.
- **Lavender-Top (EDTA) Tube:** This tube contains EDTA as an anticoagulant—used for most hematological procedures and several chemistry tests.
Note: After tube has been filled with blood, immediately invert tube several times in order to prevent coagulation.
- **Red-Top Tube:** This tube contains a clot activator used for serum determinations in chemistry, serology, and immunohematology. Invert 5 times to activate clotting.
- **Royal Blue-Top Tube:** There are 2 types of royal blue-top Monoject® tubes—1 with the anticoagulant EDTA and the other plain. These are used in drawing whole blood or serum for trace element analysis. Refer to individual metals in individual test listings to determine tube type necessary.
- **Serum Gel Tube:** This tube contains a clot activator and serum gel separator—used for various laboratory tests.
Note: Invert the tube 8 to 10 times to activate clotting;

let stand for 20 to 30 minutes before centrifuging for 10 minutes. If frozen serum is required, pour off serum into plastic vial and freeze. Do not freeze VACUTAINER®.
- **Special Collection Tubes:** Some tests require specific tubes for proper analysis. Please contact the laboratory at 708-229-5085 prior to patient draw to obtain correct tubes for metal analysis or other tests as identified in individual test listings.

- Yellow-Top (ACD) Tube: This tube contains ACD—used for drawing whole blood for special tests.

Requests/Reporting

Interfering Substances

The most common interfering substances are listed in the specimen requirement of the test listing. A more comprehensive listing is available in Young DS: Effects of Drugs on Clinical Laboratory Tests. 4th edition. Washington DC, AACC Press, 1995.

Reference Values

All reference values listed are for adult normals unless otherwise indicated.

Laboratory Requisition

LABORATORY REQUISITION												
 LITTLE COMPANY OF MARY HOSPITAL AND HEALTH CARE SYSTEM Department of Laboratory Medicine and Pathology 2600 W. 93rd Street, Evergreen Park, IL 60805 • Phone (708) 229-5800 Fax (708) 346-0098			XXXXXX									
INSURANCE INFORMATION												
(Shaded Areas To Be Completed By Dr.'s Office)												
Bill To: ☐ Patient ☐ Insurance ☐ Medicare ☐ Medicaid ☐ Other			PLEASE ATTACH COPY OF INSURANCE CARD									
Insurance Carrier: _____ Policy Number: _____			Patient Address (if patient is to be billed): Address: _____ City: _____ State: _____ Zip: _____									
Patient Name: _____			PATIENT INFORMATION Name/Last: _____ First: _____ Middle: _____ Phone: _____ Social Security #: _____ DOB: _____ QM: _____ QF: _____ Ordering Physician: _____ Physician Number: _____ Additional Report To: _____ Diagnosis: _____ Date Placed: _____ Time: _____ AM/PM LCM USE ONLY: _____ Collected By: _____ User ID #: _____									
NOTE TO PHYSICIANS: When ordering tests for which Medicare reimbursement will be sought, physicians (or other individuals authorized by law to order tests) should only order tests that are medically necessary for the diagnosis or treatment of the patient, and not for screening.												
LABORATORY TESTS												
X CHEMISTRY PATIENT FASTING? Y N X COAGULATION PATIENT ON ANTICOAGULANT? Y N X X MICROBIOLOGY												
<table border="1" style="width: 100%; border-collapse: collapse; font-size: 8px;"> <tr> <td style="width: 33%;"> Alanine Transaminase (ALT/SGPT) ALT Albumin ALB Amylase AMY Aspartate Transaminase (AST/SGOT) AST Bilirubin, direct DBIL Bilirubin, total TBIL Calcium CA Cholesterol, total CHOL Creatinine CRE Creatinine Kinase CPK C-reactive protein, inflammatory CRP C-reactive protein, high sensitivity, cardiac CRP-HS Ferritin* FERR Folate FOLATE Glucose Fasting* GLU Glucose 2 hr post dose (non pregnant) GTT2HR Glycosylated Hemoglobin* GLYCO Hepatitis B Surface Antigen* HBSAG HIV* HIV Homocysteine* HOMOCY Iron/TIBC* FET/IBC Lactate Dehydrogenase (LDH) LDH Lead LEAD Lipase LIP Magnesium* MG Phosphorus PHOS Potassium K Protein, total PROT Transferrin* TRANS Urge Nitrogen (BUN) UREA Uric Acid URIC Vitamin B12 VITB12 </td> <td style="width: 33%;"> Anticoagulant Last Date: _____ Time: _____ Partial Thromboplastin Time* PT Prothrombin Time* PTT D-Dimer D-DIMER ANA (titer reflexed) ANA Heterophile Test (Monospot) HETERO H. pylori IgG Antibody HELPYL Rheumatoid Factor RHF RPR* (titer reflexed) RPR Rubella IgG Antibody, screen RUB ABO & Rh ABO/RH Antibody Screen ABS Rh Immunoglobulin RHIG Urinalysis (microscopic reflexed) UA Urine drug screen UA RFX CAS Urine drug screen DAU Carbamazepine CARBAM Digoxin* Last Dose: _____ Date: _____ Time: _____ Diamin (Phenytoin) Last Dose: _____ Date: _____ Time: _____ Tacrolimus TACRO Theophylline THEO Vancomycin, Random VANCOR Valproic Acid VALPRO </td> <td style="width: 33%;"> Acid Fast Bacilli Culture & Smear (sensitivity reflexed), source: AFB Aerobic Culture & Gram Stain (sensitivity reflexed), source: AER Anaerobic/Aerobic Culture & Gram Stain (sensitivity reflexed), source: ANAER Blood Culture (sensitivity reflexed) BL Fungus Culture & Smear, source: FUN Genital Culture (sensitivity reflexed) GEN Is patient allergic to Penicillin? Y N Stool Culture (sensitivity reflexed) STC Throat Culture THR Urine Culture* (sensitivity reflexed) UR Flu A/B Antigen, source: FLU Herpes, PCR, source: HSVPCR RSV Antigen, source: RSV Strep Gp A Ag screen Rapid (culture reflexed if negative) STREPA C. difficile A/B, stool COIFF Giardia/Cryptosporidium Antigen, stool GIACRYP Occult Blood, stool - diagnostic OCCBLD F Occult Blood, stool - screening* OCCBLD F Ova & Parasites, stool OP Rotavirus, stool ROTA Stool WBC's WBC </td> </tr> </table>										Alanine Transaminase (ALT/SGPT) ALT Albumin ALB Amylase AMY Aspartate Transaminase (AST/SGOT) AST Bilirubin, direct DBIL Bilirubin, total TBIL Calcium CA Cholesterol, total CHOL Creatinine CRE Creatinine Kinase CPK C-reactive protein, inflammatory CRP C-reactive protein, high sensitivity, cardiac CRP-HS Ferritin* FERR Folate FOLATE Glucose Fasting* GLU Glucose 2 hr post dose (non pregnant) GTT2HR Glycosylated Hemoglobin* GLYCO Hepatitis B Surface Antigen* HBSAG HIV* HIV Homocysteine* HOMOCY Iron/TIBC* FET/IBC Lactate Dehydrogenase (LDH) LDH Lead LEAD Lipase LIP Magnesium* MG Phosphorus PHOS Potassium K Protein, total PROT Transferrin* TRANS Urge Nitrogen (BUN) UREA Uric Acid URIC Vitamin B12 VITB12	Anticoagulant Last Date: _____ Time: _____ Partial Thromboplastin Time* PT Prothrombin Time* PTT D-Dimer D-DIMER ANA (titer reflexed) ANA Heterophile Test (Monospot) HETERO H. pylori IgG Antibody HELPYL Rheumatoid Factor RHF RPR* (titer reflexed) RPR Rubella IgG Antibody, screen RUB ABO & Rh ABO/RH Antibody Screen ABS Rh Immunoglobulin RHIG Urinalysis (microscopic reflexed) UA Urine drug screen UA RFX CAS Urine drug screen DAU Carbamazepine CARBAM Digoxin* Last Dose: _____ Date: _____ Time: _____ Diamin (Phenytoin) Last Dose: _____ Date: _____ Time: _____ Tacrolimus TACRO Theophylline THEO Vancomycin, Random VANCOR Valproic Acid VALPRO	Acid Fast Bacilli Culture & Smear (sensitivity reflexed), source: AFB Aerobic Culture & Gram Stain (sensitivity reflexed), source: AER Anaerobic/Aerobic Culture & Gram Stain (sensitivity reflexed), source: ANAER Blood Culture (sensitivity reflexed) BL Fungus Culture & Smear, source: FUN Genital Culture (sensitivity reflexed) GEN Is patient allergic to Penicillin? Y N Stool Culture (sensitivity reflexed) STC Throat Culture THR Urine Culture* (sensitivity reflexed) UR Flu A/B Antigen, source: FLU Herpes, PCR, source: HSVPCR RSV Antigen, source: RSV Strep Gp A Ag screen Rapid (culture reflexed if negative) STREPA C. difficile A/B, stool COIFF Giardia/Cryptosporidium Antigen, stool GIACRYP Occult Blood, stool - diagnostic OCCBLD F Occult Blood, stool - screening* OCCBLD F Ova & Parasites, stool OP Rotavirus, stool ROTA Stool WBC's WBC
Alanine Transaminase (ALT/SGPT) ALT Albumin ALB Amylase AMY Aspartate Transaminase (AST/SGOT) AST Bilirubin, direct DBIL Bilirubin, total TBIL Calcium CA Cholesterol, total CHOL Creatinine CRE Creatinine Kinase CPK C-reactive protein, inflammatory CRP C-reactive protein, high sensitivity, cardiac CRP-HS Ferritin* FERR Folate FOLATE Glucose Fasting* GLU Glucose 2 hr post dose (non pregnant) GTT2HR Glycosylated Hemoglobin* GLYCO Hepatitis B Surface Antigen* HBSAG HIV* HIV Homocysteine* HOMOCY Iron/TIBC* FET/IBC Lactate Dehydrogenase (LDH) LDH Lead LEAD Lipase LIP Magnesium* MG Phosphorus PHOS Potassium K Protein, total PROT Transferrin* TRANS Urge Nitrogen (BUN) UREA Uric Acid URIC Vitamin B12 VITB12	Anticoagulant Last Date: _____ Time: _____ Partial Thromboplastin Time* PT Prothrombin Time* PTT D-Dimer D-DIMER ANA (titer reflexed) ANA Heterophile Test (Monospot) HETERO H. pylori IgG Antibody HELPYL Rheumatoid Factor RHF RPR* (titer reflexed) RPR Rubella IgG Antibody, screen RUB ABO & Rh ABO/RH Antibody Screen ABS Rh Immunoglobulin RHIG Urinalysis (microscopic reflexed) UA Urine drug screen UA RFX CAS Urine drug screen DAU Carbamazepine CARBAM Digoxin* Last Dose: _____ Date: _____ Time: _____ Diamin (Phenytoin) Last Dose: _____ Date: _____ Time: _____ Tacrolimus TACRO Theophylline THEO Vancomycin, Random VANCOR Valproic Acid VALPRO	Acid Fast Bacilli Culture & Smear (sensitivity reflexed), source: AFB Aerobic Culture & Gram Stain (sensitivity reflexed), source: AER Anaerobic/Aerobic Culture & Gram Stain (sensitivity reflexed), source: ANAER Blood Culture (sensitivity reflexed) BL Fungus Culture & Smear, source: FUN Genital Culture (sensitivity reflexed) GEN Is patient allergic to Penicillin? Y N Stool Culture (sensitivity reflexed) STC Throat Culture THR Urine Culture* (sensitivity reflexed) UR Flu A/B Antigen, source: FLU Herpes, PCR, source: HSVPCR RSV Antigen, source: RSV Strep Gp A Ag screen Rapid (culture reflexed if negative) STREPA C. difficile A/B, stool COIFF Giardia/Cryptosporidium Antigen, stool GIACRYP Occult Blood, stool - diagnostic OCCBLD F Occult Blood, stool - screening* OCCBLD F Ova & Parasites, stool OP Rotavirus, stool ROTA Stool WBC's WBC										
<table border="1" style="width: 100%; border-collapse: collapse; font-size: 8px;"> <tr> <td style="width: 33%;"> Hematology CBC* CBC CBC with Differential* CBCDIFF Hematocrit* HCT Hemoglobin* HGB Platelets* PLT ESR (Westergren)* ESR Reticulocyte Count RETIC </td> <td style="width: 33%;"> Endocrine Estradiol ESTRAD Follicle Stimulating Hormone (FSH) FSH HCG Quantitative* HCG QUANT Luteinizing Hormone (LH) LH Parathyroid Hormone* PTH Progesterone PROGES Prolactin PROLAC Testosterone, Total & Free TESTF Testosterone, Total TESTOS TSH* TSH TSH* (thyroid cascade reflexed) THYROID </td> <td style="width: 33%;"> OB/GYN Alpha Feto Protein Quad APP-QUAD Cysto Fibrosis CYSTICFB GC/Chlamydia DNA Probe (source): CTGC Glucose 1 hr post dose (Gestational Diabetes Screen) GTT1HR Glucose Tolerance 3 hr (Gestational) GTT3HR HCG - serum, Quantitative HCG HCG - urine HCG-U Obstetric Panel OB (CBC & Diff, HbA1c (confirmation reflexed), Rubella Ab, RPR (titer reflexed), ABO & Rh, Antibody screen) Strep Gp B screen, vaginal/rectal Is patient allergic to Penicillin? Y N STREPB </td> </tr> </table>										Hematology CBC* CBC CBC with Differential* CBCDIFF Hematocrit* HCT Hemoglobin* HGB Platelets* PLT ESR (Westergren)* ESR Reticulocyte Count RETIC	Endocrine Estradiol ESTRAD Follicle Stimulating Hormone (FSH) FSH HCG Quantitative* HCG QUANT Luteinizing Hormone (LH) LH Parathyroid Hormone* PTH Progesterone PROGES Prolactin PROLAC Testosterone, Total & Free TESTF Testosterone, Total TESTOS TSH* TSH TSH* (thyroid cascade reflexed) THYROID	OB/GYN Alpha Feto Protein Quad APP-QUAD Cysto Fibrosis CYSTICFB GC/Chlamydia DNA Probe (source): CTGC Glucose 1 hr post dose (Gestational Diabetes Screen) GTT1HR Glucose Tolerance 3 hr (Gestational) GTT3HR HCG - serum, Quantitative HCG HCG - urine HCG-U Obstetric Panel OB (CBC & Diff, HbA1c (confirmation reflexed), Rubella Ab, RPR (titer reflexed), ABO & Rh, Antibody screen) Strep Gp B screen, vaginal/rectal Is patient allergic to Penicillin? Y N STREPB
Hematology CBC* CBC CBC with Differential* CBCDIFF Hematocrit* HCT Hemoglobin* HGB Platelets* PLT ESR (Westergren)* ESR Reticulocyte Count RETIC	Endocrine Estradiol ESTRAD Follicle Stimulating Hormone (FSH) FSH HCG Quantitative* HCG QUANT Luteinizing Hormone (LH) LH Parathyroid Hormone* PTH Progesterone PROGES Prolactin PROLAC Testosterone, Total & Free TESTF Testosterone, Total TESTOS TSH* TSH TSH* (thyroid cascade reflexed) THYROID	OB/GYN Alpha Feto Protein Quad APP-QUAD Cysto Fibrosis CYSTICFB GC/Chlamydia DNA Probe (source): CTGC Glucose 1 hr post dose (Gestational Diabetes Screen) GTT1HR Glucose Tolerance 3 hr (Gestational) GTT3HR HCG - serum, Quantitative HCG HCG - urine HCG-U Obstetric Panel OB (CBC & Diff, HbA1c (confirmation reflexed), Rubella Ab, RPR (titer reflexed), ABO & Rh, Antibody screen) Strep Gp B screen, vaginal/rectal Is patient allergic to Penicillin? Y N STREPB										
<table border="1" style="width: 100%; border-collapse: collapse; font-size: 8px;"> <tr> <td style="width: 33%;"> Tumor Markers AFP* AFP CA15-3* CA15-3 CA19-9* CA19-9 CA125* CA125 CA27-29* CA27-29 CEA* CEA PSA Diagnostic* PSA PSA Screening* PSA </td> <td style="width: 33%;"> Chemistry Panels Hepatic (Liver) (Albumin, Bilirubin, T/D, Alk Phos, Protein total, ALT/SGPT, AST/SGOT) CHEM 6 Function Panel (AST/SGOT) CHEM 8 Basic Metabolic Panel (Na, K, Cl, CO₂, Calcium, Glucose, Urea, Creatinine) CHEM 14 Comprehensive (Na, K, Cl, CO₂, Glucose, Urea, Creatinine, Calcium, Bilirubin total, Protein total, Albumin, Alk phos, ALT/SGPT, AST/SGOT) Electrolytes (Na, K, Cl, CO₂) ELECT Hepatitis Panel* (Hb, IgM Ab, HBe, IgM Ab, HBeAg (confirmation reflexed), HCV Ab) HEPFAN Lipid Panel* (Cholesterol, Triglycerides, HDL, LDL) LIPID Renal Panel* (Albumin, Calcium, Na, K, Cl, CO₂, Creatinine, Glucose, Phosphorus, Urea) RENAL </td> <td style="width: 33%;"> ADDITIONAL TESTS </td> </tr> </table>										Tumor Markers AFP* AFP CA15-3* CA15-3 CA19-9* CA19-9 CA125* CA125 CA27-29* CA27-29 CEA* CEA PSA Diagnostic* PSA PSA Screening* PSA	Chemistry Panels Hepatic (Liver) (Albumin, Bilirubin, T/D, Alk Phos, Protein total, ALT/SGPT, AST/SGOT) CHEM 6 Function Panel (AST/SGOT) CHEM 8 Basic Metabolic Panel (Na, K, Cl, CO ₂ , Calcium, Glucose, Urea, Creatinine) CHEM 14 Comprehensive (Na, K, Cl, CO ₂ , Glucose, Urea, Creatinine, Calcium, Bilirubin total, Protein total, Albumin, Alk phos, ALT/SGPT, AST/SGOT) Electrolytes (Na, K, Cl, CO ₂) ELECT Hepatitis Panel* (Hb, IgM Ab, HBe, IgM Ab, HBeAg (confirmation reflexed), HCV Ab) HEPFAN Lipid Panel* (Cholesterol, Triglycerides, HDL, LDL) LIPID Renal Panel* (Albumin, Calcium, Na, K, Cl, CO ₂ , Creatinine, Glucose, Phosphorus, Urea) RENAL	ADDITIONAL TESTS
Tumor Markers AFP* AFP CA15-3* CA15-3 CA19-9* CA19-9 CA125* CA125 CA27-29* CA27-29 CEA* CEA PSA Diagnostic* PSA PSA Screening* PSA	Chemistry Panels Hepatic (Liver) (Albumin, Bilirubin, T/D, Alk Phos, Protein total, ALT/SGPT, AST/SGOT) CHEM 6 Function Panel (AST/SGOT) CHEM 8 Basic Metabolic Panel (Na, K, Cl, CO ₂ , Calcium, Glucose, Urea, Creatinine) CHEM 14 Comprehensive (Na, K, Cl, CO ₂ , Glucose, Urea, Creatinine, Calcium, Bilirubin total, Protein total, Albumin, Alk phos, ALT/SGPT, AST/SGOT) Electrolytes (Na, K, Cl, CO ₂) ELECT Hepatitis Panel* (Hb, IgM Ab, HBe, IgM Ab, HBeAg (confirmation reflexed), HCV Ab) HEPFAN Lipid Panel* (Cholesterol, Triglycerides, HDL, LDL) LIPID Renal Panel* (Albumin, Calcium, Na, K, Cl, CO ₂ , Creatinine, Glucose, Phosphorus, Urea) RENAL	ADDITIONAL TESTS										
<table border="1" style="width: 100%; border-collapse: collapse; font-size: 8px;"> <tr> <td style="width: 33%;"> Total Tests Ordered: _____ </td> <td style="width: 33%;"> Physician's Signature: _____ </td> <td style="width: 33%;"> Date: _____ </td> </tr> </table>										Total Tests Ordered: _____	Physician's Signature: _____	Date: _____
Total Tests Ordered: _____	Physician's Signature: _____	Date: _____										

OUTPATIENT LABORATORY
XXXXXX
0018672

OUTPATIENT LABORATORY
XXXXXX

Supplies

The following supplies are available for laboratory testing.

Bags

Bags, ambient
Bags, freezer
Bags, refrigerate

Blood Collection Equipment

Needles

Green 21 g
Black 22 g

Safety-Lok™ Butterfly System

21 g Green
23 g Light blue
25 g Dark blue
Blue Luer Adapter (attachment for butterfly)

Blood Collection Vacuum Tubes

Black/Tan Tiger Top - Call free DNA BCT-10mL
Blue-top (sodium citrate), 1.8 mL
Brown-top (potassium EDTA), 3 mL
Catecholamine tube —EDT A-sodium metabisulfite solution
—1.0 mL for catecholamine fractionation, plasma, free
Green-top (sodium heparin), 4 mL
Grey-top (potassium oxalate/sodium fluoride), 4 mL
Lavender-top (EDTA), 3 mL
Mint green-top (lithium heparin gel), 3.5 mL, 4.5 mL
Quantiferon - TB Gold Kit
Red-top (none), 4 mL, 6 mL
Royal blue-top metal-free Monoject® tube (EDTA [#8881-307022]), 6 mL
Royal blue-top metal-free Monoject® tube (no additive [#8881-307006]), 6 mL
Serum marbled gel tube, 7.5 mL
Serum gel tube 3.5 mL
Yellow-top (ACD solution B), 6 mL
Clear, no additive tube, 3.0 mL, 6.0 mL

Capillary Blood Gas Collection (for baby heelsticks only)

Blood gas capillary - balance Heparin 100 µL
Quickheel green lancet, 1 mm
Quickheel lavender preemie lancet, 0.85 mm

Capillary Blood Collection

Lavender MICROTAINER® (EDTA), 250 µL/500 µL
Amber MICROTAINER® (gel), 400 µL, 600 µL
Yellow MICROTAINER® (gel), 400 µL, 600 µL
MICROTAINER® tube holder

Chromosome and/or Tissue Collection

Hank's balanced salt solution
Metal-free specimen vial (blue label) for tissue metal collections
Michels transport medium for cutaneous immunofluorescence,
biopsy
RPMI

Forms

Alpha-fetoprotein Maternal Screen Form
Cytogenetics/AFP Congenital Disorders Request Form
Cytopathology Requisition Form
Dermatopathology/Immunodermatology Request Form
Lead/Heavy Metals Reporting Form
Surgical Pathology Request Form
Thalassemia/Hemoglobinopathy Information Sheet

Microbiology

BBL™ CultureSwab (2 swabs with liquid Stuart's transport medium for strep A antigen)
BBL™ CultureSwab™ Plus (2 swabs with amies gel transport medium for anaerobes)
BD ProbeTec™ ET Male And Female Collection And Transport Kit
BD Vacutainer® (no additive tube for RSV collection)
Blood culture bottles:
BACTEC™ Mycof Lytic culture bottle
BACTEC™ Peds Plus®/F culture bottles
BACTEC™ Plus Aerobic/F culture bottles
BACTEC™ Standard Anaerobic/F culture bottles
Foam tip applicator and transport tube (for collection of nasopharyngeal specimens for influenza antigen)
Hemocult® slides
Luki sterile aspirating tube (Luken's tube)
90-mL screw-capped, sterile specimen collection container
Pinworm Test Kit—Falcon™
Protocol Fecal C&S Transport System (1 orange vial)
Protocol Zn-PV A/Formalin Transport Kit (grey/pink vials)
VACUTAINER® Brand Urine Collection Kit:
Clean, voided, 4 mL
Chloraprep 10% iodine

Miscellaneous

Alcohol prep 70% isopropyl
Band-aid® coverlet 1 inch x 3 inches
Breath Test Kit for H. pylori
CytoLyt® fixative
DiaSorin UBT™ Breath Test Specimen Collection Kit
Formalin preservative
Formalin-Meridian 10% buffered neutral
Gauze, 2 inches
Latex-free tourniquets
Latex tourniquets
Liquid Aimes Swab (Bordetella Pertussis)
Mailers, infectious material, large
Omni heel warmers
One use needle holders
Para-Pak® ECOFIX™ vial
Pharmaseal® lumbar puncture tray
Powder-free latex gloves, S-M-L
Powder-free white vinyl gloves S-M-L
Quintron Lactest mix, 25 g
Salivette Tube
Serotonin Tube
Serum vial, (6 mL) white cap
StabilCyte™ Reagent Kit
Stool container, large (24 hour)
ThinPrep® Collection Kits
Urine bottle (60 mL)
Urine container, 24-hour graduated
Urine container, catheter urine (15 mL)
Uro Risk Container
V-C-M Medium
Yellow conical urine tube, 8 mL
Zeus solution

Glucose Tolerance Beverages

50 g lemon lime
75 g orange
100 g fruit punch

Critical Test Values

This listing is for tests performed at Little Company of Mary Hospital. All critical test values that are verbally communicated required read back verification.

Outpatients: Each time a critical value is generated, it is reported directly to the patient's physician, his designate, or his office.

Inpatients: During a hospitalization, a critical value is reported for a particular test by telephone to the appropriate nursing station as soon as it is verified as well as reported via printed report.

Critical Test Values		
Test	Critical Low	Critical High
Acetaminophen, Plasma or Serum		>150 µg/mL
Activated partial Thromboplastin time (APTT), Plasma		
Anticoagulant therapy		≥120 seconds
No Anticoagulant therapy		≥50 seconds
Amikacin, Serum		
Peak		≥30 µg/mL
Trough		≥10 µg/mL
Bilirubin, Total and Direct, Plasma or Serum		
Total:		
0 days		≥ 7.0 mg/dL
1 day		≥ 11.0 mg/dL
2 days		≥ 3.0 mg/dL
3 days		≥ 15.0 mg/dL
> 3 days – 1 month		≥ 15.0 mg/dL
Calcium, Plasma or Serum	≤ 6 mg/dL	≥ 13.0 mg/dL
Carbamazepine, Serum		≥ 15.0 µg/mL
Carboxyhemoglobin		> 15%
Cell Count and Gross Exam, Spinal Fluid		
Total Nucleated Cell Count		≥1,000 / µL
Chlamydia trachomatis & Neisseria gonorrhoeae by Amplified DNA Probe	Positive (inpatients)	
Chlamydia trachomatis by Amplified DNA Probe	Positive (inpatients)	
Chlamydia trachomatis Smear	Positive (inpatients)	
Clostridium difficile Toxin A & B, Feces	Positive	
Complete Blood Count (CBC), Blood		
WBCs	≤ 1,500 / µL	≥35,000 / µL
Hemoglobin	≤ 7.0 g/dL	≥20.0 g/dL
Hematocrit	≤ 15%	≥60%
Platelets	≤ 30,000 / µL	≥1,000,000 / µL
Complete Blood Count (CBC) with Differential White Cell Count, Blood		
WBCs	≤ 1,500 / µL	≥35,000 / µL
Hemoglobin	≤ 7.0 g/dL	≥20.0 g/dL
Hematocrit	≤ 15%	≥60%
Platelets	≤ 30,000 / µL	≥1,000,000 / µL
Creatine Phosphokinase (CK) MB		>9.3 ng/mL (outpatients)
Culture, Allograft	Positive	
Culture (any type)	Positive for ESBL producing organisms, KPC producing organisms, or inpatient penicillin resistant <i>Streptococcus pneumonia</i>	
Culture, Blood	Positive	
Culture, Feces	Positive for <i>Campylobacter</i> , <i>Escherichia coli</i>	

Critical Test Values

Critical Test Values		
Test	Critical Low	Critical High
	0157:H7, <i>Salmonella</i> , or <i>Shigella</i>	
Culture, Feces, <i>Campylobacter</i>	Positive for <i>Campylobacter</i>	
Culture, Feces, <i>Escherichia coli</i> 0157:H7	Positive for <i>Escherichia coli</i> 0157:H7	
Culture, Feces, <i>Salmonella</i> and <i>Shigella</i>	Positive for <i>Salmonella</i> or <i>Shigella</i>	
Culture, Feces, <i>Vibrio</i>	Positive for <i>Vibrio</i>	
Culture, Feces, <i>Yersinia</i>	Positive for <i>Yersinia</i>	
Culture, Genital	Positive for <i>Neisseria gonorrhoeae</i> (inpatients)	
Culture, <i>Mycobacteria</i>	Positive	
Culture, <i>Mycobacteria</i> , Bone Marrow or Fluid	Positive	
Culture, <i>Neisseria gonorrhoeae</i>	Positive (inpatients)	
Culture, Spinal Fluid	Positive	
Digoxin, Plasma or Serum		≥ 2.40 ng/mL
Dilantin ® Phenytoin, Plasma or Serum		≥ 25.0 µg/mL
Electrolytes/pH, Plasma or Serum and Venous Blood		
Sodium	≤ 120 mmol/L	≥ 160 mmol/L
Potassium		
< 30 days	≤ 3.0 mmol/L	≥ 8.0 mmol/L
> 30 days	≤ 2.8 mmol/L	≥ 6.0 mmol/L
Carbon Dioxide Content	≤ 10 mmol/L	≥ 40 mmol/L
pH	≤ 7.2	≥ 7.6
Electrolytes, Plasma or Serum		
Sodium	≤ 120 mmol/L	≥ 160 mmol/L
Potassium		
< 30 days	≤ 3.0 mmol/L	≥ 8.0 mmol/L
> 30 days	≤ 2.8 mmol/L	≥ 6.0 mmol/L
Carbon Dioxide Content	≤ 10 mmol/L	≥ 40 mmol/L
Ethanol, Plasma or Serum		≥ 300 mg/dL
Fibrinogen (Functional), Plasma	≤ 100 mg/dL	
Gases, Arterial Blood		
pH	≤ 7.21	≥ 7.59
pCO ₂	≤ 20 mm Hg	≥ 70 mm Hg
pO ₂		
Neonates	≤ 35 mm Hg	
Adults	≤ 40 mm Hg	
Arterial line	≤ 50 mm Hg	
HCO ₃ (calculated)	≤ 11 mm Hg	≥ 39 mm Hg
Gases/Carbon Monoxide, Arterial Blood		
pH	≤ 7.21	≥ 7.59
pCO ₂	≤ 20 mm Hg	≥ 70 mm Hg
pO ₂		
Neonates	≤ 35 mm Hg	
Adults	≤ 40 mm Hg	
Arterial	≤ 50 mm Hg	
Capillary	≤ 35 mm Hg	
HCO ₃ (calculated)	≤ 11 mm Hg	≥ 39 mm Hg
CO ₂	< 18%	
Gentamicin, Plasma or Serum		
Trough		> 2.0 µg/mL
Peak		≥ 10.0 µg/mL
Glucose, Plasma or Serum		

Critical Test Values

Critical Test Values		
Test	Critical Low	Critical High
Children (<16 years)	≤ 30 mg/dL	≥ 300 mg/dL
Adults (≥16 years)	≤ 40 mg/dL	≥ 500 mg/dL
Gram Stain	Positive for spinal fluid	
Hematocrit, Blood	≤ 15%	≥ 60%
Hemoglobin, Blood	≤ 7.0 g/dL	≥ 20.0 g/dL
Hepatitis Bs Antigen (HBsAg), Serum	Positive (confirmation testing)	
HIV-1 Antibody B (HIV-QT), Plasma or Serum	Positive	
HIV Antibody, Plasma or Serum	Positive	
Influenza A & B Antigen	Positive (inpatients and outpatients)	
Iron and Total Iron-Binding capacity, Plasma or Serum		≥ 500.0 µg/dL
Iron, Total		≥ 500.0 µg/dL
Iron, Plasma or Serum		≥ 500.0 µg/dL
Ketones, Serum	Positive (newborns)	
Lactic acid		≥ 4 mmol/L
Lead, Blood		
<15 years		≥ 10 mcg/dL
≥15 years		≥ 25 mcg/dL
Lithium, Serum		≥ 2.0 mmol/L
Magnesium, Plasma or Serum	≤ 1.4 mg/dL	≥ 6.2 mg/dL
Malarial Parasites, Blood Smear	Positive	
MRSA Screen	Positive	
Mycobacterial Smear	Positive	
Neisseria gonorrhoeae by Amplified DNA Probe	Positive (inpatients)	
Osmolality, Serum	≤ 250 mosmol/kg water	≥ 325 mosmol/kg water
Ova and Parasites, Feces	Positive	
Phenobarbital, Plasma or Serum		> 40 µg/mL
Phosphorus, Plasma or Serum	≤ 1.0 mg/dL	
Platelets, Blood >15 years	≤ 30,000 / µL	≥ 1,000,000 / µL
Potassium, Plasma or Serum		
<30 days	≤ 3.0 mmol/L	≥ 8.0 mmol/L
≥30 days	≤ 2.8 mmol/L	≥ 6.0 mmol/L
Prothrombin Time (PT), Plasma International Normalized Ratio		≥ 5.0
Rapid Plasma Reagin (RPR) Screen with Reflex Title, Serum	Reactive (Labor inpatients)	
Respiratory Syncytial Virus (RSV) Antigen	Positive (inpatients and outpatients)	
Rotavirus Antigen, Feces	Positive	
Salicylate, Plasma or Serum		≥ 70 mg/dL
Sodium, Plasma or Serum	≤ 120 mmol/L	≥ 160 mmol/L
T4 (Thyroxine), Free, Plasma or Serum		≥ 20 ng/dL
Theophylline, Plasma or Serum		≥ 20 µg/mL
Tobramycin, Plasma or Serum		
Peak		≥ 15 µg/mL
Trough		≥ 2.0 µg/mL
Troponin T, Blood		≥ 0.10 ng/mL (indicative of myocardial injury)
Urea Nitrogen, Plasma or Serum		≥ 100 mg/dL
Urinalysis, Macroscopic		
Total Reducing Substances	Positive (newborns)	
Glucose	≥ 1,000 mg/dL (patients <13 years)	
Ketones	Positive (newborns)	

Test Values

Critical Test Values		
Test	Critical Low	Critical High
<i>Urinalysis with Reflex Culture</i>		
<i>Total Reducing Substances</i>	Positive (newborns)	
<i>Glucose</i>	$\geq 1,000$ mg/dL (patients <13 years)	
<i>Ketones</i>	Positive (newborns)	
<i>Valproic Acid, Plasma or Serum</i>		≥ 120 μ g/mL
<i>Vancomycin-Resistant Enterococci Screen</i>	Positive (inpatients)	
<i>Vancomycin, Serum</i>		
<i>Peak</i>		>40 μ g/mL
<i>Trough</i>	<20 μ g/mL	
<i>VDRL Screen with Reflex Titer, Spinal Fluid</i>	Reactive	
<i>WBC, Blood</i>	$\leq 1,500$ / μ L	$\geq 35,000$ / μ L

H:\Infection Control\ADMINLAB\POLICIES and PROCEDURES by DEPT\General Lab\Critical Test Values.docx 102815.docx

Record and Specimen Retention Guidelines

RECORD AND SPECIMEN RETENTION

MATERIAL/RECORD	PERIOD OF RETENTION
Autopsy	
Fixed Tissue	1 year
Paraffin Blocks	10 years
Microscopic Slides	10 years
Patient Reports	10 years
Cytopathology	
Specimens	1 week after final report
Microscopic Slides	GYN: 5 years Non-GYN: 10 years
Patient Reports	10 years
General Laboratory	
Blood Films	2 years
Blood Specimens	7 days
Electrophoretic Strips	10 years
Fluid Slides	5 years
Body Fluids/Spinal Fluid	7 days
Patient Reports	10 years
Microbiology	
Specimens for Acid-Fast/Bacteria/Fungus/Ova and Parasites	7 days
Patient Reports	10 years
Surgical Pathology	
Fixed/Wet Tissue	14 days after final report
Foreign Bodies	1 year
Paraffin Blocks	10 years
Microscopic Slides	10 years
Patient Reports	10 years
Support Service	
Outpatient Physician Order	2 years
Transfusion Service	
ABO/Rh, Antibody Screen, DAT	10 years
Donor Deferral List	Permanent
Donor Deferral Notification	Permanent
Donor Records	10 years
Patient Problem Cards	Permanent
Cord Blood	7 days
Pretransfusion Specimen	7 days post transfusion
Rh Immune Globulin Records	10 years
Therapeutic Phlebotomy Records	10 years
Transfusion Reaction Reports	Permanent
Transfusion Records	10 years
Transfusion Transmitted Diseases Records/Results	10 years

Reference: College of American Pathologists—Laboratory Accreditation Program



Department of Laboratory Medicine and Pathology STAT TEST LIST

Chemistry

(serum, unless otherwise specified)

Acetaminophen	Blood Gas (CB)	Lithium
Albumin	Calcium	Magnesium
Alkaline Phosphatase	Carbamazepine	Methemoglobin
ALT	CK-MB	Myoglobin, Plasma
Amikacin	Carboxyhemoglobin	Osmolality, Serum
Ammonia	Comprehensive	Phenobarbital
Amylase	Metabolic Panel	Phenytoin
Arterial Blood Gas (ABG)	(Chem 14)	Phosphorus
AST	CPK	Potassium
Basic Metabolic Panel	Creatinine	Protein, Total
(Chem 8)	Digoxin	Salicylate
B-HCG (Serum & Urine),	Drugs of Abuse	Sodium
Qualitative	Electrolytes	Theophylline
B-HCG (Serum),	Ethanol	Tobramycin
Quantitative	Gentamicin	Troponin T
Bilirubin, T/D,	Glucose, Serum	TSH
Bilirubin, CB	Glucose, CSF	Urea Nitrogen, S
	HIV-rapid	Uric Acid
	Iron	Valproic Acid
	Lactic Acid	Vancomycin
	Lipase	Wet Mount for
		Trichomonas, yeast

Hematology

CBC
Fluid Cell Counts, Body,
CSF
Hematocrit
Hemoglobin
Platelets
WBC
WBC-differential

Microbiology

Gram stain
Influenza A/B Antigen
Rapid Strep A Antigen
RSV Antigen

Coagulation

ACT
Fibrinogen
D-Dimer
PT
PTT

Transfusion Service

All Blood Products
Newborn Hemolytic
Screen
Type and
Screen/Crossmatch

Urinalysis

UA