Personnel

Consultation, Medical

Mary Uckerman, M.D.
Chairman, Department of Laboratory Medicine and Pathology

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Consultation, Technical

Raya Hajjawi
Chemistry, Hematology, Point of Care

Eric Marshall
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Cytopathology

Margaret Dysarski
Transfusion Services

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Phlebotomy

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Microbiology and Referral Laboratory

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Brittaney Fritz
Oak Lawn Care Stations Limited Services, Point of Care

Teri Voelker
Oak Lawn Care Stations Limited Services, Point of Care

Laboratory Quality / IS Specialists

Pam Doherty

Mohammad Tarek Safieh

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

The laboratory provides full services to meet our patient's 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, and 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. Ali printed reports will include at least patient identifying information received with specimen, result, date and time received all 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, i.e., 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 o(Cases for Autopsy: The medical staff at Little Company of Mary Hospital believes that autopsies are useful to improve and enhance patient care. !n general, autopsies may be helpful to:

- Find the probable cause of death
- Corroborate or correct ante mortem 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 autOP.SY 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 may 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 I 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 I is required, provided that all are notified of decision and have reasonable opportunity to object. If, however, any I 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> or =500 g, are> or =28 cm long (crown• heel), and/or have a gestational age of> or =20weeks 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.

Refection ofa Request (or 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 prosector 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.

Consults1nitiated 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 > or= 500 grams and are > or = 28 cm long (crown-heel), and/or have a gestational age of> or = 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<20weeks 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 forendometrial 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.

Transfusion Service (Blood Bank)

Blood Filters

All blood and blood components must be transfused through a sterile, pyrogen-free transfusion set that has a filter that can retain particles potentially harmful to the recipient.

Packed red blood cells, washed red blood cells, whole blood, and fresh frozen plasma should be administered through a "Y"-Type Blood Solution Recipient Set. No more than 2 units may be administered through each filter; the filter cannot be used for more than 4 hours.

- An 80-micron filter is used for routine transfusions
- A 170-micron filter is used in surgery and emergency room
- Neonate transfusions are filtered into a syringe by the transfusionist using a microaggregate filter attached to a Component Infusion Set

Platelets and cryoprecipitate AHF may be infused by:

- IV push using a syringe attached to a Blood Component Infusion Set
- IV drip using a 170-micron filter, "Y"-Type Blood Component Recipient Set

Plateletpheresis are administered using a 170-micro filter, "Y"-Type Blood Component Recepient Set.

A red blood cell leukocyte filter is available upon request for patients with a history of febrile transfusion reactions and for patients with leukemia or other malignancies requiring elective, long term transfusion therapy. One unit of packed red blood cells may be administered through 1 filter; the filter cannot be used for more than 4 hours.

Patient Identification Procedures

When pretransfusion blood specimens are drawn, phlebotomist verifies patient's identity by a wristband worn by hospital inpatients or by asking outpatients to identify themselves. At this time, the phlebotomist will place a pink band with a Transfusion Service unique control number on the patient's wrist. This number will be used to positively identify the source of patient's pretransfusion blood specimen and blood products issued for transfusion.

The compatibility label and transfusion record sheets bear the patient's name, visit number, medical record number, Transfusion Service unique control number, ABO and RH group and the donor's identification number, ABO and RH group, component's expiration date, and compatibility test results when performed. Recipient-specific donated units have an additional specialty label bearing the intended recipient's name. These documents accompany the corresponding blood component unit.

Before a blood component unit is released from the Transfusion Service, the technologist and the person accepting the unit, or another technologist must compare all identifying information on the component label, component requisition form, compatibility label, and when applicable, the recipient-specific donor label to verify that there is no discrepancy.

Immediately before transfusion of every blood component unit, the transfusionist must make certain that the identifying information found on the patient's hospital and Transfusion Service pink wristbands (including the Transfusion Service unique control number) and that found on the component unit label, compatibility label, recipient- specific donor label, when applicable, and transfusion record sheets match exactly.

The above applies to therapeutic apheresis and therapeutic phlebotomies even if blood products are not ordered.

Perioperative Autologous Transfusion

Intraoperative autologous cell salvage is currently contracted by the hospital with Illinois Perfusion Technical Services.

Transfusion Service Medical Director is actively involved in establishing policies related to intra- and perioperative collection procedures to assure the current Standards for Blood Banks and Transfusion Services are followed.
Transfusion Service Medical Director is available for medical consultation to the patient's physician and is involved in monitoring of clinical outcomes.

Preadmission Testing (PAT)

Patients scheduled for elective surgery may have a type and screen or type and crossmatch done prior to admission when a physician orders it and in accordance with the Transfusion Service "Patient Identification Procedures".

Patients transfused or pregnant within the last 3 months or whose transfusion history is unknown must have their blood specimen drawn and tested within 3 days of the scheduled surgery.
Patients not transfused or pregnant within the last 3 months, may have their blood specimen drawn and tested up to 21 days before the scheduled surgery.

Autologous donors must also have a blood specimen drawn according to the proceeding policies to assure proper patient/donor unit identity and in the event homologous transfusions are necessary.

Prenatal Testing

All women must have an ABO and Rh typing performed at

Little Company of Mary Hospital on each admission until concordant results on 2 or more separate occasions are obtained and noted on the current clinical record.
An antibody screen should be performed early during each pregnancy regardless of the patient's Rh typing to detect antibodies that may cause hemolytic disease of the newborn. If a clinically significant antibody is detected, extended antibody titration is performed.

Release of Blood and Blood Components for Transfusion

When crossmatching and other routine pretransfusion testing indicate no unexpected irregularities between donor unit and recipient's blood, the unit is released to nursing service on demand if a proper order is presented and routine identification procedures are followed. However, when the possibility of an immune-mediated blood transfusion reaction is more than minimal or negligible, the decision to transfuse or not must be made on clinical grounds. If attending physician should elect to transfuse the patient, he must acknowledge awareness of the possibility of a transfusion reaction by signing the appropriate release form. In certain cases, however, the Transfusion Service Director, after consulting with the attending physician, may waive this requirement.

In an emergency, when there is not enough time to complete a crossmatch and antibody screen, the blood supplied will be ABO and Rh type-specific or group O Rh negative. In this case, a physician must authorize by signature the release of blood for transfusion. If physician cannot personally sign the release for, it may be signed by a nurse designated by the physician to do so. However, the physician must countersign it within 24 hours.

When an abnormality is found in pretransfusion blood testing, the director of the Transfusion Service will assess the risk and decide if the signature of the attending physician is necessary to authorize the release of blood.

In cases where a patient sample is sent to Heartland Blood Centers Reference Lab for antibody identification, requests for crossmatched blood will require a MD signature until the final report is received.

In all cases, the Director (or a technologist designated by the physician) will inform the attending physician of the problem. If physician ordering blood cannot personally sign the release form, it may be signed by a nurse designated by the physician to do so. However, the physician must countersign it as soon as possible.

Rh Immune Globulin Therapy

Potential candidates for administration of Rh immune globulin have a D negative blood type and no actively acquired anti-D in the serum.

Clinical indications for administering Rh immune globulin to serologically-qualifiedcandidates include:

- Delivery of an infant with D or weak D positive blood type
- Abortion or miscarriage
- Ectopic pregnancy
- Antepartum fetal-maternal hemorrhage
- Antepartum; 28 to 30 weeks gestation
- Amniocentesis
- Third trimester vaginal bleeding
- Following abdominal trauma
- Transfusion of a blood component containing Rh-positive red cells

Administration of 1 vial of Rh immune globulin intramuscularly within 72 hours after there is a clinical indication is usually sufficient unless a larger fetal-maternal hemorrhage has occurred. In the latter case, the Transfusion Service Director may be consulted regarding calculation of the number of vials of Rh immune globulin to be administered.

Administration of Rh immune globulin at 28 weeks gestation is recommended. Such prophylaxis decreases the incidence of Anti-D developing during pregnancy and does not harm the fetus.

If Rh immune globulin is administered antepartum, a second dose should be administered after 12 weeks unless parturition has occurred. If the newborn is D or weak D positive, an additional dose of Rh immune globulin should be administered.
Administration of Rh immune globulin after amniocentesis:

- Women who have an amniocentesis at 15 or 18 weeks gestation should receive 1 dose of Rh immune globulin after procedure. A second dose should be given 12 to 13 weeks later (or at 28 weeks gestation), and a third dose after delivery if the infant is D or weak D positive.
- Women who have an amniocentesis during the second or third trimesters should receive 1 dose of Rh immune globulin after the procedure and 1 dose after the delivery if the infant is D or weak D positive.

The Director of the Transfusion Service may be consulted regarding other circumstances that may require Rh immune globulin administration.

Consult the director of the Transfusion Service regarding the number of vials of Rh immune globulin required for Rh negative patient who has received Rh positive red blood cells.

Type and Screen

A "Type and Screen" may be ordered on any patient who is unlikely to require transfusion. If irregularities are found, the physician will be notified at once and the cause investigated. In these cases, crossmtaching for compatible blood will be done. If no irregularities are detected and blood is urgently needed, the blood will be released in <15 minutes after completion of an "immediate spin" crossmatch.

Routine Type and Crossmatch

Patients will have their blood typed and crossmatched for red blood cell transfusions when a written order from a physician is received. Red blood cells will be held for the designated patient for 3 days after obtaining the recipient specimen.

Source of Blood

A regular donor service is not maintained by the Transfusion Service. However, recipient-specific donations, autologous, and directed can arranged by calling Heartland Blood Centers (HBC) at 1-800-7-TO GIVE

- Autologous donations require a written physician's order. The last donation must be completed at least 72 hours before a scheduled operative procedure.
- Directed donations require a written order from the recipient's physician and a written list of potential donors approved by the recipient. At least 4 to 5 weekdays are required to complete all the necessary testing and procedures for directed donations. To prevent graft versus host disease, blood donations by family members will be irradiated before transfusion.

Essentially all the blood and blood components are obtained from HBC. Whole blood and fresh Whole blood are not stocked and, therefore, are not available. The use of packed red blood cells in combination with crystalloid and colloid solutions is recommended instead of whole blood.

The Transfusion Service stocks fresh frozen plasma, cryoprecipitate, and packed red blood cells. Washed erythrocytes will be prepared on request. Other components must be ordered specifically from HBC when needed.

Specialized blood products (e.g. leukoreduced, irradiated, cytomegalovirus negative, hemoglobin S negative, and HLA matched, etc.) are available from HBC when needed.

Se Table I: "Summary Chart of Blood Components" in "Transfusion Service (Blood Bank)" in "General Information".

Standards and Methods for Transfusion Service Practices and Testing

The Transfusion Service at Little Company of Mary Hospital is conducted in accordance with the American Association of Blood Banks, standards of Blood Banks and Transfusion Services, and standards and regulations established by the food and Drug Administration (FDA), College of American Pathologists (CAP), the Joint Commission on Accreditation of Healthcare Organizations (JCAHO), and the federal Clinical Laboratory Improvement Act (CLIA'88).

Therapeutic Apheresis

Therapeutic apheresis procedures are contracted by the hospital with Fresenius Medical Care Extracorporeal Alliance, Inc. (1-800-521-9757). Nursing will verify two patient identifiers, have a written physician order and will call the house physician if any adverse event should occur. Nursing should evaluate the patient for risks prior to starting procedure. All patients should be thoroughly evaluated before, during and after the apheresis for any signs of an adverse reaction. The Laboratory Medical Director is available for consultation.

The Transfusion Service is not involved with these procedures directly but will supply fresh frozen plasma as a replacement fluid when ordered by a physician.

Arrangements for use of albumin as a replacement fluid are made through the pharmacy.

Therapeutic Phlebotomy

Inpatient therapeutic phlebotomies are contracted by the hospital with Fresenius Medical Care Extracorporeal Alliance, Inc. (1-800-521-9757).

Outpatient therapeutic phlebotomies are performed by Lifesource. Appointments may be made by calling 1-847- 299-7386.

The Transfusion Service is not directly involved with these procedures. The Laboratory Medical Director is available for consultation.

Tissue Storage Service

Little Company of Mary Hospital Tissue Storage is a service that functions within the Surgery Department and is under the direction of the medical director of the Surgery Department. It is responsible for receiving frozen musculoskeletal tissues from organ procurement transplant banks, storage, quality control and monitoring of storage equipment, maintaining quality control of equipment records, and issue and tracking receipt to final distribution. The Little Company of Mary Hospital Tissue Storage Service does not procure tissues or test donors.

Summary Chart of Blood Components-Blood Component Therapy

Component	Volume	Administration Set*	Infusion rate	Minimum notice**	Comments
Red Blood Cells	250ml to 350 ml	Y-Type BSR Set 80µ or170µ	1 to 2 hours(1)	60 to 90 minutes	Uncrossmatched blood is available in 5 to 10 minutes
Washed Red Blood cells	200ml to 300 ml	Y-Type BSR Set 80µ or 170 µ	1 to 2 hours(1)	2 to 3 hours	Outdates 24 hours after washing
Deglycerolized (Frozen) Red Blood Cells	200ml to 300 ml	Y-Type BSR Set 80µ or170µ	1to2hours(1)	6 hours(3)	Outdates 24 hours after deglycerolizing
Fresh Frozen Plasma/ Plasma Frozen Within 24 Hours After Phlebotomy	220ml to 250 ml	Y-Type BSR Set 80µ or170µ	As rapidly as tolerated(1)	40 to 60 minutes	Outdates 24 hours after thawing. Infuse as soon as possible after thawing
Thawed Plasma	220ml to 250 ml	Y-Type BSR Set 80µ or 170 µ	As rapidly as tolerated(1)	40 to 60 minutes	Outdates 5 days after thawing of the original component.
Cryoprecipitate, Single donor	5ml to 10 ml	BCI Set 170µ	As rapidly as tolerated(2)	30 minutes	Outdates 6 hours after thawing. Infuse as soon as possible after thawing
Cryoprecipitate, Pooled	50ml to 100 ml	Y-Type BCR Set 170 µ	As rapidly as tolerated(2)	40 to 60 minutes	Outdates 4 hours after thawing. Infuse as soon as possible after pooling
Plateletpheresis	200ml to 300 ml	Y-Type BCR Set 170 µ	As rapidly as tolerated(2)	2 to 36 hours(3)	

*BSR = Blood Solution Recipient
*BCI = Blood Component Infusion
*BCR = Blood Component Recipient
**MINIMUM NOTICE-The minimum time required after pretransfusion specimen is received in the Transfusion Service.

(1)Rate of infusion should be slower in patients with clinical conditions increasing the risks of volume overload, but must not exceed 4 hours.

(2)Infusion should be slower in patients with clinical conditions increasing the risk of volume overload.

(3)The time required to obtain the product from the blood supplier may be substantially longer when the supply is diminished.

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 reject g 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 Pneumocystls carinll, 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 lgM component of the antibody response in I 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 I (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

- 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.

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

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.
- Mint Green Top (Lithium Heparin gel) : **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.

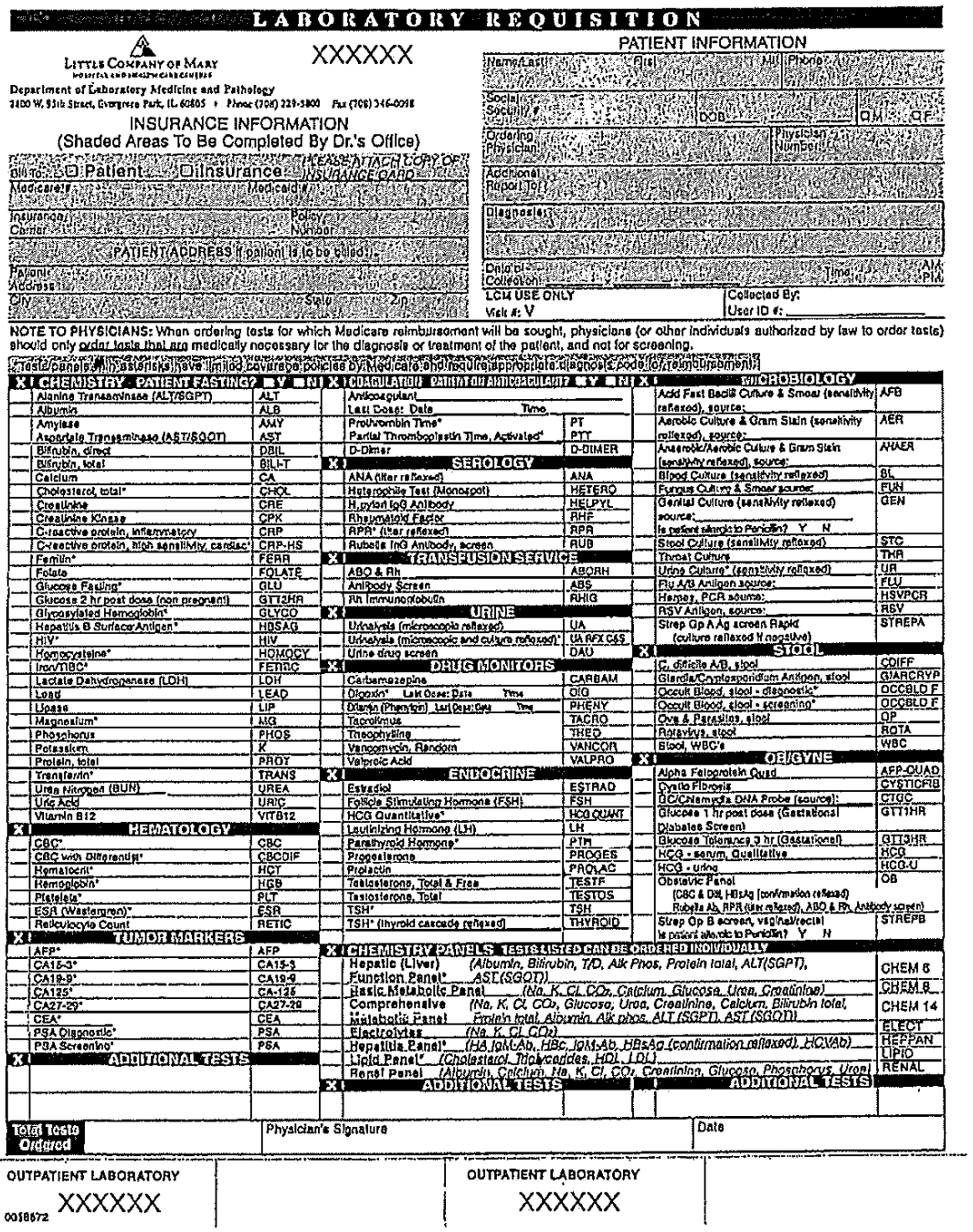
- *Yellow-Top(ACD)Tube*: This tube contains ACD- used for drawing whole blood for special tests.

Requests/Reporting

Interfering Substance
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. 4"' edition. Washington DC, AACC Press, 1995.

Reference Values
All reference values listed are for adult normal unless otherwise indicated.

Laboratory Requisition



LABORATORY REQUISITION

LITTLE COMPANY OF MARY HOSPITAL AND HEALTH CARE CENTERS

XXXXXX

Department of Laboratory Medicine and Pathology
2400 W. 95th Street, Evergreen Park, IL 60805 • Phone (708) 229-5800 Fax (708) 346-0098

INSURANCE INFORMATION
(Shaded Areas To Be Completed By Dr.'s Office)

Bill to: ☐ Patient ☐ Insurance — PLEASE ATTACH COPY OF INSURANCE CARD

Medicare # | Medicaid #

Insurance Carrier | Policy Number

PATIENT ADDRESS (if patient is to be billed)

Patient Address | City | State | Zip

PATIENT INFORMATION

Name: Last | First | MI | Phone #

Social Security # | DOB | ☐M ☐F

Ordering Physician | Physician Number

Additional Report To

Diagnosis

Date of Collection | Time | ☐AM ☐PM

LCM USE ONLY
Visit #: V

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.

Tests/panels with asterisks have limited coverage policies by Medicare and require appropriate diagnosis code(s) for reimbursement.

X	CHEMISTRY - PATIENT FASTING? ☐Y ☐N	
	Alanine Transaminase (ALT/SGPT)	ALT
	Albumin	ALB
	Amylase	AMY
	Aspartate Transaminase (AST/SGOT)	AST
	Bilirubin, direct	DBIL
	Bilirubin, total	BIL-T
	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*	FERRC
	Lactate Dehydrogenase (LDH)	LDH
	Lead	LEAD
	Lipase	LIP
	Magnesium*	MG
	Phosphorus	PHOS
	Potassium	K
	Protein, total	PROT
	Transferrin*	TRANS
	Urea Nitrogen (BUN)	UREA
	Uric Acid	URIC
	Vitamin B12	VITB12

X	HEMATOLOGY	
	CBC*	CBC
	CBC with Differential*	CBCDIF
	Hematocrit*	HCT
	Hemoglobin*	HGB
	Platelets*	PLT
	ESR (Westergren)*	ESR
	Reticulocyte Count	RETIC

X	TUMOR MARKERS	
	AFP*	AFP
	CA15-3*	CA15-3
	CA19-9*	CA19-9
	CA125*	CA-125
	CA27-29*	CA27-29
	CEA*	CEA
	PSA Diagnostic*	PSA
	PSA Screening*	PSA

X	ADDITIONAL TESTS	

X	COAGULATION PATIENT ON ANTICOAGULANTS? ☐Y ☐N	
	Anticoagulant Last Dose: Date Time	
	Prothrombin Time*	PT
	Partial Thromboplastin Time, Activated*	PTT
	D-Dimer	D-DIMER

X	SEROLOGY	
	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

X	TRANSFUSION SERVICE	
	ABO & Rh	ABORH
	Antibody Screen	ABS
	Rh Immunoglobulin	RHIG

X	URINE	
	Urinalysis (microscopic reflexed)	UA
	Urinalysis (microscopic and culture reflexed)*	UA RFX C&S
	Urine drug screen	DAU

X	DRUG MONITORS	
	Carbamazepine	CARBAM
	Digoxin* Last Dose: Date Time	DIG
	Dilantin (Phenytoin) Last Dose: Day Time	PHENY
	Tacrolimus	TACRO
	Theophylline	THEO
	Vancomycin, Random	VANCOR
	Valproic Acid	VALPRO

X	ENDOCRINE	
	Estradiol	ESTRAD
	Follicle Stimulating Hormone (FSH)	FSH
	HCG Quantitative*	HCG QUANT
	Leutinizing Hormone (LH)	LH
	Parathyroid Hormone*	PTH
	Progesterone	PROGES
	Prolactin	PROLAC
	Testosterone, Total & Free	TESTF
	Testosterone, Total	TESTOS
	TSH*	TSH
	TSH* (thyroid cascade reflexed)	THYROID

X	CHEMISTRY PANELS TESTS LISTED CAN BE ORDERED INDIVIDUALLY	
	Hepatic (Liver) Function Panel* (Albumin, Bilirubin, T/D, Alk Phos, Protein total, ALT(SGPT), AST (SGOT))	CHEM 6
	Basic Metabolic Panel (Na, K, Cl, CO2, Calcium, Glucose, Urea, Creatinine)	CHEM 8
	Comprehensive Metabolic Panel (Na, K, Cl, CO2, Glucose, Urea, Creatinine, Calcium, Bilirubin total, Protein total, Albumin, Alk phos, ALT (SGPT), AST (SGOT))	CHEM 14
	Electrolytes (Na, K, Cl, CO2)	ELECT
	Hepatitis Panel* (HA IgM Ab, HBc IgM Ab, HBsAg (confirmation reflexed), HCV Ab)	HEPPAN
	Lipid Panel* (Cholesterol, Triglycerides, HDL, LDL)	LIPID
	Renal Panel (Albumin, Calcium, Na, K, Cl, CO2, Creatinine, Glucose, Phosphorus, Urea)	RENAL

X	ADDITIONAL TESTS		

X	MICROBIOLOGY	
	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) source: Is patient allergic to Penicillin? Y N	GEN
	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

X	STOOL	
	C. difficile A/B, stool	CDIFF
	Giardia/Cryptosporidium Antigen, stool	GIARCRYP
	Occult Blood, stool - diagnostic*	OCCBLD F
	Occult Blood, stool - screening*	OCCBLD F
	Ova & Parasites, stool	OP
	Rotavirus, stool	ROTA
	Stool, WBC's	WBC

X	OB/GYNE	
	Alpha Fetoprotein Quad	AFP-QUAD
	Cystic Fibrosis	CYSTICFIB
	GC/Chlamydia DNA Probe (source):	CTGC
	Glucose 1 hr post dose (Gestational Diabetes Screen)	GTT1HR
	Glucose Tolerance 3 hr (Gestational)	GTT3HR
	HCG - serum, Qualitative	HCG
	HCG - urine	HCG-U
	Obstetric Panel (CBC & Diff, HBsAg [confirmation reflexed] Rubella Ab, RPR (titer reflexed), ABO & Rh, Antibody screen)	OB
	Strep Gp B screen, vaginal/rectal Is patient allergic to Penicillin? Y N	STREPB

	ADDITIONAL TESTS	

Total Tests Ordered	Physician's Signature	Date

OUTPATIENT LABORATORY
XXXXXX
0018872

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
Black22g

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-EDTA-sodium metabisulfite solution -10 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 heel sticks only)
Blood gas capillary - balance Heparin 100 µL
Quickheel green lancet, 1mm
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
MJCROTAINER® 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
Cytogenetic/AFP Congenital Disorders Request Form
Cytopathology Requisition Form
Dermatopathology/inmmunodermatology 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)
BBLTM CultureSwab™ Plus (2 swabs with amies gel transport medium for anaerobes)
BD ProbeTecTM ET Male and Female Collection and Transport Kit
BD Vacutainer® (no additive tube for RSV collection)
Blood culture bottles:
BACTEC™ Mycolf 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)
Hemoccult® 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 (1orange 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 I inch x 3 inches
Breath Test Kit for H. pylori
CytoLyt® fixative
DiaSorin UBTTM 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 Seratonin
Tube
Serum vial, (6 mL) white cap
StabilCyteTM Reagent Kit
Stool container, large (24 hour)
ThinPrep® Collection Kits
Urine bottle (60 mL)
Urine container, 24whour 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 and Alert values that are verbally communicated required read back verification and documentation in the computer system. Documentation includes the User ID or name of the receiver of the critical/alert value and the time it was communicated.

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

Inpatients:
During a hospitalization, a critical value is reported for a particular test by telephone to an RN at the nursing station as soon as it is verified.
Critical values for Calcium, Platelets, Troponin T, Urea Nitrogen and WBC's are called when the first critical per hospital stay is identified and every 72 hours thereafter.
Critical therapeutic drug levels (amikacin, gentamycin, tobramycin and vancomycin) are called directly to Pharmacy (x5502); the nursing unit is not called.
Alert values are called to the nursing unit

ED patients:
Critical values are called to the physician. If the physician is not available, the RN in the ED is the 2nd qualified employee to take the critical call.
Alert Lactic values are reported to the person answering the call.

Critical Test Values			**Critical**	**Alert**	
Test	**Critical Low**	**Critical High**			
Acetaminophen		>150 µg/mL	X		
Activated partial Thromboplastin time (APTT),					
Anticoagulant therapy		≥120 seconds	X		
No Anticoagulant therapy		≥50 seconds	X		
Amikacin					
Peak		≥30 µg/mL	X		Call Pharmacy
Trough		≥10 µg/mL	X		Call Pharmacy
Bilirubin, Total					
Total:					
0 days old		≥ 7.0 mg/dL	X		
1 day old		≥ 11.0 mg/dL	X		
2 days old		≥ 13.0 mg/dL	X		
≥ 3 days – 1 month old		≥ 15.0 mg/dL	X		
Calcium	≤ 6 mg/dL	≥ 13.0 mg/dL	X		Initial and every 72 hours
Carbamazepine		≥ 15.0 µg/mL	X		
Carboxyhemoglobin		> 15%	X		
Cell Count and Gross Exam, Spinal Fluid					
Total Nucleated Cell Count		≥1,000 / µL	X		
Cord Blood					
pH	≤ 6.9		X		
Base Excess	≤ -12.00 mmol/L		X		
Creatinine Phosphokinase (CK) MB (Outpatients)		>9.3 ng/mL	X		
D-Dimer (outpatients)		>0.50 µg/mL		X	
Digoxin		≥ 2.40 ng/mL	X		
Dilantin ® Phenytoin		≥ 25.0 µg/mL	X		
Electrolytes/pH					
Sodium	≤120 mmol/L	≥160 mmol/L	X		

Critical Test Values			**Critical**	**Alert**	
Test	**Critical Low**	**Critical High**			
Potassium					
≤ 30 days old	≤3.0 mmol/L	≥8.0 mmol/L	X		
> 30 days old	≤2.8 mmol/L	≥6.0 mmol/L	X		
Carbon Dioxide Content	≤10 mmol/L	≥40 mmol/L	X		
Ethanol		≥ 300 mg/dL	X		
Fibrinogen (Functional),	≤ 100 mg/dL		X		
Gases/Carbon Monoxide, Arterial Blood					
pH	≤ 7.21	≥ 7.59	X		
pCO_2	≤ 20 mm Hg	≥ 70 mm Hg	X		
pO_2			X		
Neonates	≤ 35 mm Hg		X		
Arterial	≤ 50 mm Hg		X		
HCO_3 (calculated)	≤ 10 mm Hg	≥ 40 mm Hg	X		
Gentamicin					
Trough		≥ 2.0 µg/mL	X		Call Pharmacy
Peak		≥ 10.0 µg/mL	X		Call Pharmacy
Glucose					
Children (<16 years) (Inpatient)	≤ 30 mg/dL	≥ 300 mg/dL	X		
Adults (≥16 years)	≤ 50 mg/dL	≥ 500 mg/dL	X		
Hematocrit			X		
0-14 days old		≥ 75%	X		
≥14 days old	≤ 15 %	≥ 60%	X		
Hemoglobin					
0-14 days old		≥25.0 g/dL	X		
≥14 days old	≤7.0 g/dL	≥ 20.0 g/dL	X		
Hepatitis Bs Antigen (HBsAg)	Positive (confirmation testing)			X	
HIV Antibody	Positive			X	
Iron, Total		≥500.0 µg/dL	X		
Lactic acid (ED patient only))		≥2 but <4mmol/L		X	
Lactic acid		≥4mmol/L	X		
Lead					
<15 years old		≥10 mcg/dL		X	
≥15 yearsold		≥25 mcg/dL		X	
Lithium		≥2.0 mmol/L	X		
Magnesium	≤1.4 mg/dL	≥6.2 mg/dL	X		
Malarial Parasites, Blood Smear	Positive		X		
Osmolality,	≤250 mosmol/kg water	≥325 mosmol/kg water	X		
Phenobarbital		>40 µg/mL	X		
Phosphorus	≤1.0 mg/dL		X		
PKU (abnormal result)				X	
Platelets	≤30,000 / µL	≥1,000,000 / µL	X		Initial and every 72 hours thereafter
Prothrombin Time (PT),			X		
International Normalized Ratio		≥5.0	X		
Salicylate		≥70 mg/dL	X		
Theophylline		≥20 µg/mL	X		
Tobramycin					
Peak		≥15 µg/mL	X		Call Pharmacy
Trough		≥2.0 µg/mL	X		Call Pharmacy
Troponin T		≥0.10 ng/mL	X		Initial and every

Critical Test Values			Critical	Alert	
Test	**Critical Low**	**Critical High**			
		(indicative of myocardial injury)			72 hours thereafter
Urea Nitrogen		≥100 mg/dL	X		Initial and every 72 hours thereafter
Urinalysis, Macroscopic					
Glucose	≥1,000 mg/dL (patients < 13 years)		X		
Ketones	Positive (newborns < 2 days old)		X		
Valproic Acid		≥120 µg/mL	X		
Vancomycin					
Peak		>40 µg/mL	X		Call Pharmacy
Trough		≥25 µg/mL	X		Call Pharmacy
WBC, Blood	≤1,500 / µL	≥35,000 / µL	X		Initial and every 72 hours thereafter
WBC, Blood segmented neutrophils	<0.50 TH/µL		X		

This listing is for tests performed at Little Company of Mary Hospital. All critical test values that are verbally communicated required read back verification and documentation in the computer system. Documentation includes the User ID or name of the receiver of the critical/alert value and the time it was communicated.

Outpatients:

- Each time a critical value is generated, it is reported directly to the patient's physician, his/her designate, or the office RN or MA.

Inpatients patients:

- During a hospitalization, a critical value is reported for a particular test by telephone to the RN at the nursing station as soon as it is verified.
- Alert values for a Positive MRSA screen are reported to Pharmacy via printed report only

ED patients

- Critical values are called to the physician. If the physician is not available, the RN in the ED is the 2nd qualified employee to take the critical call.

Critical Test Values		Critical	Alert	
Test	**Result**			
Arthropod	Positive bed bug (inpatients)		X	
Chlamydia trachomatis by Amplified DNA Probe	Positive (Non-ED patients)	X		
Clostridium difficile by PCR, Feces	Positive	X		
Culture, Allograft	Positive	X		
Culture (any type)	Inpatient ESBL or CRE if patient is NOT in isolation		X	

Critical Test Values		**Critical**	**Alert**	
Test	**Result**			
Culture (any type)	Inpatient penicillin resistant *Streptococcus pneumonia Positive MRSA*	X		
Culture, Blood	Positive	X		
Culture, Feces	Positive for *Campylobacter, Escherichia coli* 0157:H7, *Salmonella*, or *Shigella*	X		
Culture, Feces, Campylobacter	Positive for *Campylobacter*	X		
Culture, Feces, Escherichia coli 0157:H7	Positive for *Escherichia coli* 0157:H7	X		
Culture, Feces, Salmonella and Shigella	Positive for *Salmonella* or *Shigella*	X		
Culture, Feces, Vibrio	Positive for *Vibrio*	X		
Culture, Feces, Yersinia	Positive for *Yersinia*	X		
Culture, Genital	Positive for *Neisseria gonorrhoeae*	X		
Culture, Mycobacteria	Positive	X		
Culture, Neisseria gonorrhoeae	Positive (Non- ED patients)	X		
Culture, Spinal Fluid	Positive	X		
Gram Stain	Positive for spinal fluid	X		
Influenza A & B Antigen	Positive (Non-ED patients)	X		
Legionella Urine Antigen	Positive	X		
MRSA Screen	Positive		X	Pharmacy notified via printed report
Mycobacterial Smear	Positive	X		
Neisseria gonorrhoeae by Amplified DNA Probe	Positive (Non-ED patients)	X		
Ova and Parasites, Feces	Positive	X		
Rapid Plasma Reagin (RPR) Screen with Reflex Titer	Reactive (Labor inpatients and Outpatients)	X		
Respiratory Panel	Positive result	X		
Respiratory Syncytial Virus (RSV) Antigen	Positive (Non-ED patients)	X		
Rotavirus Antigen, Feces	Positive	X		
Vancomycin-Resistant Enterococci Screen	Positive (inpatients)	X		
VDRL Screen with Reflex Titer, Spinal Fluid	Reactive	X		

This listing is for tests performed at Little Company of Mary Hospital Transfusion Service. All critical test values that are verbally communicated required read back verification and documentation in the computer system. Documentation includes the User ID or name of the receiver of the critical/alert value and the time it was communicated.

The following list of test results require immediate notification to the Nursing Unit/Physician and/or Transfusion Service Medical director/Designee/Manager.

Suspected and Confirmed Hemolytic Transfusion Reaction
Incompatible/Least Compatible Crossmatches when no compatible units can be found
Autoimmune antibody

Positive Direct Antiglobulin Test on a Cord Blood Specimen
Unresolved ABO discrepancies
Incomplete/Unresolved antibody problem
Transfusion ABO Incompatible, FFP/PF24

Record and Specimen Retention Guidelines

RECORD AND SPECIMEN RETENTION	
MATERIAL/RECORD	**PERIOD OFRETENTION**
Autopsy	
Fixed Tissue	1 year
Paraffin Blocks	10 years
Microscopic Slides	10 years
Patient R pons	10 years
Cytopathology	
Specimens	I 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 yean,
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 Record,	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

LittleCompany *of* Mary Hospital

and Health Care Centers

Department of Laboratory Medicine and Pathology

STATTEST LIST

Chemistry

(Serum, unless otherwise specified)

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