

**SUNY Downstate Medical Center -University Hospital
of Brooklyn Network
Department of Pathology Policy and Procedure**



**Subject: PROCEDURES FOR HANDLING INPATIENT AND
OUTPATIENT LABORATORY ORDERS AND RESULTS**

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Supporting Documents:

Approval Workgroup: Laboratory Administration
Approval Group

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I. PURPOSE

To provide guidelines for documenting laboratory test orders and specimen handling information.

II. POLICY

Diagnostic procedures and laboratory tests shall be carried out only when an appropriate medically necessary order is documented by the Physician.

III. DEFINITION(s)

L.I.S. = Laboratory Information System; Cerner

GC Media = Specimen Collection Material provided for the transport and isolation of the gonococcus bacteria.

Add-on – Additional test orders requested from samples already received in the Laboratories.

IV. RESPONSIBILITIES

All clinical managerial laboratory and clerical personnel, phlebotomy team, nurses and clinicians are trained in the application of the Cerner Laboratory Information for all laboratory orders and specimen handling.

V. PROCEDURES/GUIDELINES

1. Laboratory Orders:

All chemistry, hematology, microbiology, virology, Molecular Pathology and blood bank laboratory procedures requests must be ordered electronically in the hospital's physician order entry system (Healthbridge) and in locations where Healthbridge is not implemented, the **DMC/Cerner Laboratory Information System (LIS)** before sending specimens to the laboratory.

- a. The application (**LAB ORDERS**) is used to order procedures. It is located on the desktop of every PC at nursing stations, suites, some medical service areas, and physician offices.
 - Laboratory orders shall be placed in the LIS system as "Phlebotomy Collect" or "Physician Collect" (UHB Cerner Inpatient Workflow and Training Manual).
- b. The LIS system will generate barcode labels after a "physician collect" order is submitted. The labels will display the patient's name, medical record number, location, age, DOB, specimen number, container type, specimen volume, laboratory, specimen handling, and the procedures requested.
- c. On Inpatient entries the LIS system will place a "Phlebotomy Collect" order on the phlebotomy collection list. The labels will be placed at the time of collection by the phlebotomy team. The labels will display the patient's name, medical record number, location, age, DOB, specimen number, container type, specimen volume, laboratory, specimen handling, and the procedures requested.
- d. All Add-on tests shall be entered in the LIS by Laboratory Personnel only. Orders for additional tests are to be faxed to the Laboratory. The Technologist will verify the validity of

the sample and quantity and order the test as requested. The facsimile shall be filed as an order record.

- e. All clinicians, nurses, and clerks when ordering laboratory procedures shall:
- Search the LIS system for patients via their **UNIQUE** and correct serial number before placing an order.
 - Verify patient's name and medical number before placing an order.
 - Ensure that the correct procedure is selected before "adding to scratch pad" or submitting an order.
 - Enter appropriate diagnosis code for outpatient procedure or procedures ordered.
 - Use the "add to scratch pad" function instead of "submit orders" when ordering more than one procedure per patient.
 - Press "submit orders" after order(s) is displayed in the scratch pad box.
 - Call the laboratory when there is a need to add a test to an already collected specimen.
 - Click on the "cancel" icon if a label does not print after an order is submitted.
 - Record the accession number for the procedure requested and reprint label via the "Label Reprint" function.

Cytology and Surgical Pathology procedures will be ordered in the Co-Path system. All specimens sent to these laboratories must be accompanied by their respective laboratory forms and or computerized requisitions as needed. A completed requisition is required for all studies. This must include: patient's name, medical record number, patient's encounter number, physician, date, test required, time of collection, and the collector's signature.

For Blood Bank, when orders are submitted, a series of bar-coded labels will be generated. The largest label is to be placed on the right side of the orange requisition, **REQUEST FOR BLOOD COMPONENTS** card. The requesting physician's name is to be written in the "Requested by" space on the left side of the orange requisition. The specimen is to be drawn, labeled with the remaining large bar-coded labels, and the labels signed by the phlebotomist of that specimen at the patient's bedside. The phlebotomist of the specimen must also sign in the "Signed by" space on the left of the orange requisition, attesting that the proper patient identification checks were performed.

When the order is completed, the white pickup card, **REQUEST FOR BLOOD RELEASE** card, must be presented for the dispensing of the products. Anyone affiliated with the institution can pick up products. Only one product for a single patient is dispensed at a time. In emergency, two products for the same patient may be dispensed.

2. Specimen Collection:

- (a) Inpatient specimens are primarily collected by Nursing Services. Nursing personnel facilitate blood specimen collections thru rounds scheduled for 6am, 3pm and 8pm. (See Ven-1 Policy, and LIS Training Manual). "Physician Collect" specimens are collected by Clinicians and nursing staff between the phlebotomy rounds.
- (b) OPD patients will be given an OPD Lab Services Form (blue lettering), with their names and the tests requested coupled with the barcode label generated by the LIS system. They will then take this information to the outpatient phlebotomy area (A2-610), or clinic where their specimen will be collected as requested by a phlebotomist.

(c) Phlebotomists, clinicians, nurses

- Verify patient's demographics on barcode label before placing on specimen container.
- Ensure that all specimens are labeled with the correct labels.
- Place specimen in a specimen container bag.

3. Tissue Collection

Patient Preparation:

Tissue is obtained from the Operating Rooms, Clinics, Nursing Stations and outside contributors. Questions about the specimens and the tests that may need to be performed should be directed to the Director of Anatomical Pathology and the on-call Pathologist before the medical procedure is done. This is the responsibility of the submitting physician/entity.

The specimen is obtained by the Submitting Physician from the patient. The Submitting Physician or his/her deputy must bring each tissue specimen (in a safe, secure and labeled container) with a completed, legible, Pathology Protocol form (# SP-1, #SP-2 or Autopsy Block List) for Surgical Pathology.

Type:

1. Human Tissue specimens requiring pathological diagnoses.
2. Foreign bodies/prostheses – to be described only.
3. Placenta that need to be properly disposed of as of Regulated Medical Waste.
4. See Hospital Policy # LAB-4 for Handling of Human Tissue and Foreign Matter.
5. See Surgical Pathology Policy & Procedures for Handling of Stillborns or Aborted Fetuses. (#AP-SH-2)
6. All specimens are routinely subjected to microscopic evaluation except for the following:
 - i. Surgical Hardware, Prosthesis, except maybe clinging tissue.
 - ii. Specimens that cannot physically be decalcified, sectioned or stained.
 - iii. Items to be submitted to the NYPD via the UHB Public Safety Dept. (i.e. Bullet)
 - iv. Specimens submitted for disposal only.
 - v. Specimens for research purposes only.
 - vi. Placentas not in accordance with the guidelines for placental examination

Concerning Placental Examinations-

The placenta should be sent to Surgical Pathology for examination by the Pathologist under any of the following circumstances:

1. It is removed by Caesarian section.
2. Any gross abnormality of the placenta, it's membranes, or the umbilical cord.
3. Any case in which there is reason to suspect an abnormal pregnancy, abnormal delivery, abnormal infant, or Potential for litigation.
4. The existence of certain maternal conditions:
 - a. diabetes mellitus (or glucose intolerance)
 - b. hypertension (pregnancy-induced)
 - c. pre-maturity (32 weeks or less gestation)
 - d. post-maturity (pregnancy longer than 42 weeks gestation)
 - e. maternal history of reproductive failure (defined as one or more previous spontaneous, still birth, neonatal deaths, or premature births)
 - f. oligohydramnios
 - g. fever or infection
 - h. maternal history of substance abuse

- i. repetitive bleeding (other than minor spotting in the first trimester)
 - j. abruption placenta.
- 5. The existence of certain fetal and neonatal conditions:
 - a. stillbirth or perinatal death
 - b. multiple birth
 - c. congenital abnormalities
 - d. fetal growth retardation
 - e. pre-maturity (32 weeks or less gestation)
 - f. hydrops fetalis
 - g. viscid/thick meconium
 - h. admission to a neonatal intensive care unit
 - i. severe depression of the CNS (Apgar score of 3 or less at 5 minutes)
 - j. neurologic problems, including seizures
 - k. suspected infection

4. Specimen handling and media requirements:

- (a) Use the specimen container displayed on barcode label when collecting specimen.
- (b) Adhere to specimen handling when necessary.

(e.g. DO NOT FREEZE).

- (c) **Viral Culture Media-** Universal Culture Media. Store at refrigerated temperatures between 2-8 C. The transport media does not need to come to room temperature prior to use.
- (d) **Coagulation-** If unable to collect coagulation specimen and specimen must be drawn through an indwelling catheter, the line should be furnished with 5ml of saline and the first 5 ml of blood or six dead space volumes of the catheter discarded.

(e) **Surgical Pathology specimen handling conditions:**

Specimens submitted should be either in a:

- 1. Container with 10% NBF (Neutral Buffered Formalin fixative solution), 4% Buffered Glutaldehyde Fixative – supplied by Surgical Pathology - or in sealed leak-proof plastic bag for specimens requiring immediate (frozen section) diagnoses, Scrape & touch Preps.
- 2. Leak-proof, Biohazard bag – for large unfixed tissue. Attached patient specimen label and #SP-1 form (Blue) with specimen delivery log book to verify and confirming the accuracy of document to prevent any possible error.
- 3. Large, double, red-bag – for amputated limbs.
- 4. OR – Leak-proof plastic bag attached patient specimen label and #SP-1 form with specimen delivery log Book to verify and confirming the accuracy of document to prevent any possible error.
- 5. Labor and Delivery - Leak-proof plastic bag attach patient specimen label and #SP-2 form (Green)
- 6. Clinics - 10% Neutral Buffered Formalin filled container- attach patient specimen label and #SP-1 form.
- 7. Nursing Stations - 10% Neutral Buffered Formalin filled container- attach patient specimen label and SP-1 form.
- 8. Endoscopy – 10% Neutral Buffered Formalin filled container- attach patient specimen label and SP-1 form.
- 9. Satellite Labs - 10% Neutral Buffered Formalin filled container- attach patient specimen label and SP-1 form.

10. Oral - 10% Neutral Buffered Formalin filled container- attach the patient specimen label and Requisition form.(Folded small White)
11. For renal biopsies – tissue for immunofluorescent studies portion should be submitted in 'Zeus' Fixative.
12. Delivery of specimens – it is important that all specimens are delivered to Surgical Pathology at room A2-467 and notify to the secretaries ASAP to insure proper handling and the need for immediate fixation. All specimens delivered after normal duty-hours (Mon -Fri. from 8:00am to 6:00pm) and Holiday, Weekend are stored in the designated specimen refrigerator located in the Clinical Pathology Suite near room #A2-428.

SPECIMEN FOR TESTING	HANDLING	FOR MORE INFORMATION
URINE -URINALYSIS /CULTURE PREGNANCY-BHCG/ 24HR URINE TESTING	REFRIGERATE <u>DO NOT FREEZE</u>	Contact: Urinalysis 270-1654 Microbiology 270-1655 Chemistry 270-2921
ANATOMIC PATHOLOGY -NON-FORMALIN SPECIMEN (<u>FRESH</u>) -FORMALIN SPECIMEN -PAP SMEARS	REFRIGERATE <u>DO NOT FREEZE</u> Keep at ROOM TEMPERATURE	Contact: Surgical Path 270-1649 Cytology 270-1666
CULTURES: THROAT/GC/CHLAMYDIA /HPV/Vaginal Group B- Strep	REFRIGERATE <u>DO NOT FREEZE</u>	Contact: Microbiology 270- 1655
BLOOD CULTURES	Keep at ROOM TEMPERATURE	Contact: Microbiology 270- 1655

5. Inpatient Specimen Transport:

- All Clinical Pathology specimens must be delivered directly to the Central Accessioning Room, A2-428 (Ext. 2815 and 4216).
- The phlebotomy team, messenger service, nurses, and clinicians transport specimens.
- The pneumatic tube transport system may also transport specimen to the central accessioning room.
- Specimens are transported in a clear plastic Biohazard labeled specimen container bag.

(See Procedure for Handling Laboratory Specimens (Lab-2))

6. Outpatient and Satellites Clinics Transport:

- All specimens from hospital clinics are to be delivered directly to the Central Accessioning Room (A2-428) via the pneumatic tube or by hospital internal messenger service.
- Specimens from the Satellites clinics are to be transported to the hospital central accessioning room (A2-428) by courier service on a set schedule or on a demand basis.
- Date and time log entries are signed by the nurse at pick-up station and also signed by staff at the drop-off point, Central Accessioning room A2-428)
- Specimens are transported in an insulated container (2°-12°C) with ice packs to ensure the stability of samples.
- Courier container temperature is checked randomly by laboratory personnel and documented accordingly.
- Laboratory personnel are informed if temperature is above 12°C as specimens may be compromised by drastic change in temperature.
- Spills in transit follow immediately recommended spill response procedure in Chemistry manual. After treating spills, patients are called for redraw of specimen.

7. Specimen Receiving.

Clinical Pathology specimens are received in the Central accessioning room. (A2-428)

The Central Accessioning Room is open 24 hours/day.

All specimens are logged into the LIS system via the Specimen Log-in application. (See Procedure for Handling Laboratory Specimens Policy – Lab-2). After log-in the specimens are distributed by laboratory clerks to their respective laboratory departments as specified on the label.

8. Specimen Processing.

Specimen processing is performed in all laboratory sections in Pathology depending on the procedure requested.

The LIS applications used to perform these tasks are:

- ARE (Accession Result Entry)
- Pending Inquiry
- Specimen Transfer
- Instrument Queue
- Worklist
- Differential
- ORV (Order Result Viewer)
- QC Maintenance
- QC Inquiry

(See Laboratory Department Policy and Procedure and LIS Training Manual)

Microbiology and Virology

- Microbiology Result Entry
- Batch Report
- Pending Inquiry
- Worklists
- Biochemicals
- Susceptibility

(See Laboratory Department Policy and Procedure and LIS Training Manual)

9. Laboratory Results (Report and Inquiry) for Clinical Laboratories.

- (a) **All results** for test requested, processed and verified are accessible in the LIS system via the "LAB RESULTS" application. This application is located on the desktop of all PCs at the suites.
- (b) **Critical result** will be reported immediately after processing via phone to the suites or nursing station, where the order originated. The name of the person accepting the results and the time that the call was made will be recorded in the LIS system. (See Critical Value Policy, Lab-7)
An expedited report will also be printed immediately to the suite or applicable Nursing Stations after verification. This report is printed primarily for physicians.
- (c) **Outpatient Finals Reports** are printed in each suite or medical service every morning. These reports must be placed in the patients' charts.
- (d) Inpatient Split Cum
- (e) Discharged Report

10. Center Segment on Blood Bank.

VI. REFERENCES

Cerner Reference Manual

Policy: (Lab-7) Critical Values–
(Lab-2) Procedure for Handling Lab Specimens
(Ven-1) Venipuncture