Policies/Specimen Collection and Preparation-NMMC

Cancellation of Tests

Cancellations received prior to test setup will be honored at no charge. Requests received following test setup cannot be honored. A report will be issued automatically and charged appropriately.

General Laboratory Procedures/Policies (Inpatients)

The facilities of the laboratory, for use of a physician in the establishment or confirmation of diagnosis of disease or injury, are located on the first floor of the hospital. The department is open and adequate personnel are on duty 24-hours a day, 7-days a week.

REQUISITIONS:
Requests for laboratory procedures are to be made using the Hospital Information System (HIS) and the established protocol for it. If the HIS is down, follow the protocol for backup procedures.

Requests for work ordered for today, this p.m.; tonight, this a.m.; STAT, now; for surgery, etc., should be ordered immediately.

The laboratory is responsible for collecting specimens on all outpatients.

Emergency Services Department (ESD) is responsible for collecting specimens on all ESD patients.
The laboratory is responsible for collecting specimens on the majority of inpatients, with exceptions being MDRO patients, ICU patients and other inpatients whose specimens must be drawn from line or venous access device (VAD). Nursing personnel in ICU prioritize requests and collect specimens at the appropriate times. Barcode labels for these requests will print on barcode labeler on appropriate nursing unit. Laboratory personnel are available to assist with difficult specimen collections.

It is the policy of the laboratory to respond to any life-threatening situation if we are called.

If someone brings a STAT specimen to the laboratory, he/she should personally tell someone in the laboratory that a STAT procedure has been requested. The laboratory personnel will perform the test as soon as possible and report the results.

A FAX system is used to transmit preliminary reports on STAT requests to the ESD, Nursing Units, and Women's Health Center in the event of computer down-time or results of a non-computerized test. These reports are to be placed on the chart by nursing personnel. The final reports are to be charted on regular charting rounds and the preliminary report will then be removed.

Specimen Rejection Criteria

To ensure accurate test results, NMMC may be unable to accept a specimen for analysis based on certain pre-analytic conditions. Some of the circumstances that may result in rejection of the specimen are listed below. We regret any inconvenience to you or the patient being tested, but specimen integrity is paramount in achieving accurate test results.

- Specimen and/or requisition improperly labeled
- Specimen collected at wrong time
- Specimen collected in wrong tube or container
- Specimen submitted with inadequate volume
- Specimen improperly transported or stored
- Specimen type is incorrect for test requested
- Specimen container cracked or leaked
- Specimen contaminated by IV fluid
- Specimen hemolyzed
- Specimen clotted in anticoagulant tube

Tests Referred to Another Laboratory

There are some tests not performed at NMMC. We have contracted appropriate reference laboratories to provide these services. A nominal handling fee will be added to the charges from the reference laboratory.

Test Turnaround Time

This catalog lists the days on which the test is set up as a guide to expected analytical turnaround times. Repeated tests take additional time. If defined analytical turnaround times will not be met by the testing laboratory, you will be notified.

Specimen Collection

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:* Plasma is the liquid portion of unclotted or anticoagulated blood. If a plasma specimen is requested, draw the blood in the recommended vacuum tube. The amount of blood should be 2 and 1/2 times the volume of plasma requested. Allow the tube to fill completely then gently invert several times. Centrifuge the specimen for 10 minutes, and separate the plasma within 1 hour into a plastic transfer tube for delivery to the laboratory. Refer to the individual test listing for specific information on refrigeration or freezing of specimen.

• *Serum*: Serum is the liquid portion of clotted blood to which no anticoagulant has been added. If a serum specimen is requested, draw the blood in a red-top vacuum tube of sufficient volume to yield the proper amount of serum. The amount of blood drawn should be 2 1/2 times the volume of serum requested. Allow the blood to clot for 30 to 45 minutes, then centrifuge for 10 minutes. Separate the serum, being careful not to transfer any cells, into a plastic transfer tube for delivery to the laboratory. For serum gel tubes, it is not always necessary to separate serum for transport to the laboratory. Refer to individual test listing for specific information on refrigeration or freezing of specimens.
• *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.
• The Pathology Department and Nursing are responsible for drawing blood specimens. In certain situations, other departments or clinics may draw blood specimens. Other types of specimens may also be drawn by clinics or departments other than Pathology.
• The accuracy of any laboratory determination is dependent upon the integrity of the specimen on which it is performed. Detailed drawing procedures are included in the NMMC Pathology Directory of Services hard copy and hospital internet. If there are questions, please call the laboratory. If these instructions are strictly followed, the quality and quantity of the specimens received by the laboratory will be appropriate.
• The minimum volume listed is sufficient for the performance of the analysis 1 time only. If the minimum volume is submitted, the laboratory will be unable to repeat the analysis in the event of technical difficulty or for the verification of abnormal results.

SPECIFIC COLLECTION CONSIDERATIONS:

• The following is a list of tubes referred to in NMMC's specimen requirements:
—*Light Blue-Top (Sodium Citrate) Tube*: This tube contains sodium citrate as an anticoagulant—used for collection of blood for prothrombin time, partial thromboplastin time and other coagulation studies.
Note: It is imperative that tube be completely filled. 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 anticoagulant.
—*Grey-Top (Potassium Oxalate/Sodium Fluoride) Tube*: This tube contains potassium oxalate as an anticoagulant and sodium fluoride as a preservative—used to preserve glucose, alcohol, and lactic acid.
Note: After tube has been filled with blood, immediately invert tube several times in order to prevent coagulation.
—*Green-Top (Lithium Heparin) Tube*: This tube contains lithium heparin as an anticoagulant—used for collection of blood for basic metabolic panel and ammonia.
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 liquid EDTA (ethylenediamine tetracetic acid) and potassium sorbate as an anticoagulant—used for hematology and blood bank testing.
Note: After tube has been filled with blood, immediately invert tube several times in order to prevent coagulation.
—*Red-Top Tube*: This tube is a plain VACUTAINER® containing no anticoagulant—used for any test requiring collection of serum.
—*Serum Gel Tube*: This tube contains a clot activator and serum gel separator—used for various laboratory tests. Serum gel tubes are not acceptable for Blood Bank testing and a few other tests, but may be used for most tests requiring serum.
Note: Invert tube 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® tubes.

Specimen Labeling/Transportation

• All specimens must be properly labeled. Refer to "Proper Labeling of Laboratory Specimens" Policy, refer to table of contents for appropriate section.
• Accrediting agencies require the laboratory to reject a specimen for analysis if it is not properly identified.
• Specimens delivered to laboratory by Nursing Services:
—24-Hour urine specimens
—Body fluids, ie, pleural fluids, cerebrospinal fluids, paracentesis fluid, thoracentesis fluid, etc.
—Sputum specimens
—Stool specimens
• Specimens picked up by laboratory personnel at Nursing Unit specimen room or sent via pneumatic tube:
—Blood specimens
—Random urine specimens
—Culture swab
• Some specimens cannot be sent via the pneumatic tube. Please refer to PCS Pneumatic Tube policy for specific listing of tests.

Charting

Laboratory results will be charted under the results tab divider for NMMC Charts.

- Computer Entered Results:
  - —All routine results that are on-line in Epic should be entered and released on a timely basis by appropriate Laboratory personnel. All stat results should be entered and released immediately upon completion of testing by appropriate Laboratory personnel.

- Scheduled Routine Charting Times:
  - — All finalized laboratory results not interfaced to Epic will be charted daily by 1430.

- STAT Charting:
  - —All STAT laboratory results not reported via HIS will be charted or faxed when results are available. Laboratory personnel charting any manual report will place their initials and the time charted on the chart copy of the report. The date must also be indicated if different from the testing performed date. STAT results that have been phoned are documented as such on the report. Copy of results(s) will be scanned into Epic to the patient's chart.
  - — STAT and timed results that have been interfaced in HIS are retrievable in patient's chart.

- Order of Charting for Manual Laboratory Reports:
  - — Reports not generated by the HIS are charted manually. They are placed on the chart by Pathology personnel behind the computer-generated reports. Copy of report is scanned to patient's chart in Epic.

- Chart Identification:
  - —Two patient identifiers (such as name and medical record number) should be checked against lab report before it is placed on the chart.

- Identification of Person Charting:
  - —After placing a report on patient's chart, the person charting should note their initials and time charted. Date should also be noted if other than date testing performed

- Charting Errors:
  - —Manual Charting Results Error:
    If a charting error occurs, the report is stamped - VOID, Charting error. Another report will be rendered and will be placed on the correct chart.
  - —Manually Charted Lab Result Error:
    If the results on a manual laboratory report are incorrect and already charted, check to see if results have been communicated to anyone in any manner. The report and copies are stamped "VOID-invalid results, please refer to corrected report". A corrected report will then be placed on the chart, in the files and appropriate parties notified. Pertinent documentation such as person notified, date, time, and initials must be indicated on all copies.

  - —Computer-Entered Lab Results Errors:
    If an incorrect result has been entered in the LIS, erroneous results must be replaced with correct results or the statement, "Previous Results Entered Here in Error" (PRE). A corrected report will be available in HIS but physician and/or nurse in charge of patient should be notified to assure appropriate patient care.
  - —Women's Hospital (WH):
    WH Reports are handled in manner identical to that outlined previously.
  - —Outpatient and Emergency Services Department Patients:
    These will be single reports on white paper printing in the appropriate location. This will be the permanent chart copy. A copy of these reports will print in the laboratory and will be scanned into Epic to the patient's chart and sent to the ordering physician's office by fax or courier.

- Donor Laboratory Results:
  - — All organ donor lab results are designated as "Organ Donor". Reports are sent to HIS to be scanned into the patient's chart in Epic. Reports are maintained in the LIS.