

## Specimen Evaluation Rejection v2.0

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### 148355.1087 Specimen Evaluation Rejection

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#### Approval and Periodic Review Signatures

Type	Description	Date	Version	Performed By	Notes
Approval	Lab Director	9/18/2023	2.0	Samantha Davenport MD Service Line Chief (M03764)	
Approval	Lab Director	9/14/2023	2.0	Timothy Chapman MD Clinical Laboratory Director (M11669)	
Approval	Lab Director	9/13/2023	2.0	John Fisk MD Clinical Laboratory Director (M08480)	
Approval	Lab Director	9/12/2023	2.0	Ghazala Nathu MD Clinical Laboratory Director (S00134)	

#### Version History

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2.0	Approved and Current	Initial version	9/11/2023	9/18/2023	Indefinite

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## SPECIMEN EVALUATION AND REJECTION

### PURPOSE AND PRINCIPLE

The quality of a laboratory result depends upon the quality of the specimen and analytical factors. Any factor that affects the quality of the specimen may be considered a preanalytic variable. Every specimen must be evaluated for its suitability for processing and analysis. Improper collection, transport and processing not only lead to waste of financial resources, but also may cause an incorrect diagnosis and lead to potential danger to the patient. Much of the success of the laboratory investigation depends on things that happen to the specimen before it arrives in the laboratory. Was the specimen collection tube properly selected? Was it collected properly? Was it protected from light, high temperatures or drying out during transportation, if appropriate? Was it rapidly transported to the laboratory for processing? The general criteria for rejection of specimen can be found below.

The designation (I) indicates an RL6 Report is required.

### GENERAL REJECTION CRITERIA

#### LABELING ERRORS

These include unlabeled or mislabeled specimens. An unlabeled specimen is an unacceptable specimen. As a minimum, the specimen container **must** be labeled with:

- Patient's first and lastname.
- Patient's medical record number (MRN) [unless the specimen is from a patient outside the Bassett Healthcare System or during downtime, in which case the date of birth (DOB) (month-day-year) is required. For Blood Bank specimens, refer to ***Specimen Labeling Policy*** (86-CL) for specific details. (I) A Bassett medical record number is always required on a Blood Bank specimen.
- Date and time of collection and initials of person collecting. The date and time of collection is especially important because it will be used to determine the suitability of the specimen for processing and for the provider to correlate results with any change in the patient's condition. (This information must be in electronic collection format in the hospital information system that displays the collector name, date and time labeled specimen was scanned into collection.)

#### FOR SITES WHO ORDER AND COLLECT THROUGH EPIC

- All specimens across the network (**inpatient and outpatient**) should be labelled with a Beaker label and electronically collected, unless a prearranged exception (a call to the lab) has been received and approved by the Laboratory.
- For locations/departments that use the EPIC inpatient collection process** (includes the inpatient locations, ED, ASU, OPCS, Cath Lab and OR), a patient wristband scan and specimen label scan is required. If the collector overrides the patient and/or specimen required scan, a call to the lab is required along with date, time and initials on the label. Refer to *Specimen Labeling Policy* for specific details. (I) Exception: If there is a "Specimen scan override and/or Patient scan override" **and** "Wrong patient specimen" FYI, the specimen will be rejected even with a call made to the lab.
  - Calls to the lab related to scan overrides must be documented in EPIC/Beaker **in the Lab** Comment field which can be accessed through Expected List, Accessioned Not Collected list, and Specimen Update function for **all specimens** created for a designated collection. Documentation must include full first and last name of person calling along with smart text (.SCAN) that will update as "notified lab of scan override. Date, time, person documenting".
  - Blood Bank, Chemistry, Hematology, Microbiology and send out specimens will be rejected if there is:
    - Patient Scan Override** and no call to the lab and/or specimen is not hand labeled with full first

- and last name, MRN, date, time and initials.
- **Specimen Scan Override** and/or there is **no call to the lab and/or date, time and initials are not on the Beaker label** and/or a **second set of initials verifying label matches patient wristband**.
- **Specimen is not electronically collected** in EPIC/Beaker. (Identified while trying to receive the specimen in Beaker).

**Note:** Manual collection information by the RN initiates Specimen Scan Override of which would.

- For locations/departments that use the outpatient ambulatory workflow**, patient must be identified prior to printing labels. After collection, Beaker labels must be placed on a specimen at the patient's side and then scanned into the EPIC/Beaker collection function by the collector. Specimens will be rejected if there is no collection information in the system unless a call is received by the lab and date, time and initials are on the specimen label.
  - For Blood Bank specimens: The patient must be identified by a second person and documented in EPIC/Beaker prior to printing the labels. If there is no other Bassett employee in the collection location to verify patient identification, the patient can be used as the second person to verify the EPIC screen and orders are those of the person prior to printing labels. The collector must enter their information as the second person and document in "Comments" the patient information.

**FOR SITES THAT SUBMIT PAPER REQUISITIONS (NON-BASSETT PROVIDERS)**

- Must have the date and time handwritten onto the requisition. Initials should be present as well, but specimen will not be rejected on this basis alone.
- CLP or lab receiving area is responsible for entering the stated collection date/time and initials in the LIS to the handwritten time, and receiving specimen into the system.
- Identification of the patient must be the same on both the paper requisition and specimen. If there is a discrepancy, it must be reconciled. If the requisition is wrong, a corrected requisition may be submitted. If the specimen is wrong and cannot be reconciled, it will be rejected.

In the event a labeling error, due to misidentification or specimen scan overrides that do not meet defined criteria, is detected in one section of the lab, it will be the responsibility of the technologist to notify the other lab sections where specimens on the same patient from the same collection have been received. All specimens associated with the draw will be rejected.

**Responsibility:** CLP or lab receiving area holds primary responsibility for rejection of specimens for labeling errors, with the exception of Blood Bank or Pathology specimens. These should be taken to the respective section for rejection. Refer to Specimen **Labeling Policy** (86-CL) for specific details. (I)

**BODY FLUIDS LABELING ERRORS**

Body fluids of any specimen type rejected for labeling errors - improperly labeled, mislabeled or unlabeled - will be delivered to the section for testing (with the exception of BAL-see below). The section will perform testing and hold results, following the Rejected Body Fluid Worksheet. This will assure results are available should the provider request testing per the Irretrievable Specimen Policy.

Results will NOT be reported unless the Irretrievable Specimen Protocol has been approved. In the case of a critical value, the tech will contact the provider with the results. Provider will be notified that result will not be released until the Irretrievable Policy has been followed.

**Responsibility:** CLP or lab receiving area holds primary responsibility for rejection of body fluids for labeling

errors. CLP or lab receiving area will reject the specimen(s) and deliver the specimen(s) to the section for testing. Refer to *Specimen Labeling Policy* for specific details. Technical section is responsible for rejection of the specimen for any other reason. (I)

### **BAL (BRONCHIAL ALVEOLAR LAVAGE) LABELING ERRORS**

Pulmonary BAL (Bronchial alveolar lavage) specimens are collected during a bronchoscopy procedure. These specimens may have multiple orders for multiple departments on them. They are separated into the appropriate number of aliquots by respiratory therapy and delivered directly to the appropriate testing section by respiratory therapy. The specimen(s) should not be dropped off in CLP or lab receiving area. If respiratory therapy has not split the specimens the entire specimen is delivered to the microbiology section. The section(s) will perform testing and hold results, following the Rejected Body Fluid Worksheet. This will assure results are available should the provider request testing per the Irretrievable Specimen Policy. Results will NOT be reported unless the Irretrievable Specimen Protocol has been approved.

**Responsibility:** Microbiology holds primary responsibility for rejecting these specimens after consult with other appropriate technical lab sections. (I)

### **BLOOD SPECIMEN REJECTION CRITERIA**

#### **IMPROPER CONTAINER**

Method specific specimen requirements must be considered. Upon receipt, specimens should be sorted and prepared for centrifugation if appropriate. At this time, blood collection tubes are checked to ensure the appropriate tubes were used for the tests ordered. Tubes with additives are not to be used indiscriminately as an additive can interfere with test results. Anaerobic specimens must be kept capped and not aliquoted.

**Responsibility:** CLP or lab receiving area holds primary responsibility for rejecting specimens for improper containers, with the exception of Blood Bank specimens. These should be taken to the Blood Bank for rejection. (I)

#### **QNS INSUFFICIENT SPECIMEN QUANTITY**

For serum separator tubes and tubes containing additives, blood volume is critical. The amount of additive in a tube, or serum separator requires a minimum volume. Blood collection tubes are checked to ensure the appropriate volume of blood relative to the additive in the tube. In general, coagulation tubes, blood gases and carboxyhemoglobin must be filled to at least 90% of the stated volume on the tube, and to at least 50% for serum separator or tubes with additives for hematology and chemistry.

**Responsibility:** CLP or lab receiving area holds primary responsibility for rejecting specimens with the exception of Blood Bank specimens. These should be taken to the Blood Bank for rejection. If there is a question of an acceptable volume, CLP or lab receiving area will consult with the appropriate technical section. If during analysis a sample is determined to be QNS, it is the responsibility of the testing personnel to reject the sample.

#### **INAPPROPRIATE TEMPERATURE**

Some laboratory tests require the specimen to be preserved at refrigerated temperatures. Cool temperatures slow metabolic processes that may alter some specimen constituents and stabilizes certain thermolabile analytes. Examples of common tests requiring chilling immediately upon collection are: ammonia, Lactic Acid, catecholamines, gastrin and PTH. A serum or plasma sample that is required to be shipped frozen must arrive frozen in the receiving laboratory. Refer to the Lab Manual on the intranet for specific requirements for certain tests.

**Responsibility:** CLP or lab receiving area holds primary responsibility for rejecting specimens for inappropriate temperature, after consultation with the appropriate technical section, with the

exception of Blood Bank specimens. These should be taken to the Blood Bank for rejection. (I)

#### DELAYS IN TRANSPORT

Reliability of laboratory results improves the more quickly specimens arrive at the laboratory. The time from collection to centrifugation should not exceed 2 hours. Serum/plasma chemistry testing should be centrifuged and separated from the cells if transport will exceed 2 hours. Serum/plasma from the gel tubes that will be sent to another laboratory for testing should be separated into an aliquot tube within 8 hours after centrifugation. Anaerobic specimens must be kept capped and not aliquoted.

**Responsibility:** CLP or lab receiving area holds primary responsibility for rejecting specimens for delay in transport, with the exception of Blood Bank specimens. These should be taken to the Blood Bank for rejection. (I)

#### DAMAGED IN TRANSIT

Improper handling can affect specimen quality. Ensure containers are securely sealed. Cracked or leaking containers allow for contamination of the specimen. Specimens for transport must be placed in a leak proof plastic bag or lockable rigid container.

**Responsibility:** CLP or lab receiving area holds primary responsibility for rejecting specimens for damage in transport, or during centrifugation with the exception of Blood Bank specimens. These should be taken to the Blood Bank for rejection. (I)

#### HEMOLYSIS

Specimens for coagulation, serology or blood banking that are hemolyzed are generally unacceptable. Certain analytes in chemistry are susceptible to hemoglobin interference. Refer to procedure for Analyzing Hemolyzed specimens in Chemistry. See the appropriate department rejection table for complete information.

**Responsibility:** The appropriate technical section holds primary responsibility for rejecting hemolyzed specimens.

#### ABSURD VALUES/CONTAMINATED SPECIMEN

Laboratory values that are physiologically impossible and thus absurd have been defined for specific chemistry and hematology analytes/parameters. When verifying results in the LIS that meet these criteria a pop up box will alert the tech to the possibility of an absurd value. The pop up box will say:

*“This result is physiologically unlikely, verify specimen integrity, look at previous values and contact provider to see if the questionable result fits the clinical picture.”*

Absurd Values		
Test	Values Below	Values Above
Calcium	<5.0	>15.0
Glucose Random	<10	>2500
Glucose Newborn		>500
Sodium	<110	>175
Potassium	<1.3	>7.0
MCV		>120
MCHC		>42

**Any of these values should be treated as a contaminated specimen.** Specimens that are suspected of being contaminated by IV fluid or TPN may or may not meet the criteria for an Absurd Value.

If a specimen is suspected of being an absurd value or contaminated the tech will take the following actions:

1. Verify specimen integrity. Look for specimen quality issues (e.g. fibrin, clots, hemolysis, etc.). If clotted see *Blood Specimen Rejection Criteria*.
2. Check previous values for the patient to see if the results reflect the same clinical picture. If no, proceed to 3. If yes, call provider to see if the questionable result fits the clinical picture. If provider states that the result fits the clinical picture and the specimen has not been drawn above or through an IV or port, report the result(s) and document conversation with provider.
3. Check other values for that patient sample. If there is only one absurd value or failed Delta, follow steps d-f below. If there are multiple absurd values or deltas, follow steps 1) - 6) below.
  - 1) Verify correct specimen type (e.g. Serum/plasma). If improper specimen, see II-A.
  - 2) Verify patient identification. If incorrect, see section I - Labeling errors.
  - 3) Verify site of collection (above or through an IV or port).
  - 4) Verify instrument performance by checking QC and patient results surrounding the absurd value patient. Repeat on another instrument if possible.
  - 5) Call provider to see if the questionable result fits the clinical picture. Inform the provider if specimen was drawn above or through an IV or port. If provider states that the result fits the clinical picture and the specimen has not been drawn above or through an IV or port, report the result(s) and document conversation with provider. Otherwise, notify the provider that the specimen will be rejected, and ask provider if a redraw is needed. Follow Specimen Recollection policy.
  - 6) If unable to result a test after multiple attempts or if instrument performance cannot be verified, consider POC test, if available.

**Note: If the tech questions the validity of a test result(s) that a provider insists be resulted, the tech may consult with the pathologist on call.**

**Responsibility:** The appropriate technical section holds primary responsibility for rejecting a contaminated specimen after taking action. (I)

#### CLOTTED

Specimens collected into anticoagulated tubes (blue, purple or green top tubes) or blood gas syringes that are clotted are to be rejected. Clotted samples yield erroneous cell counts and can clog instrument probes also leading to erroneous results. A clotted sample can contain macroscopic or microscopic clots. Microscopic clots appear as fibrin strands, with or without platelet clumps, under the microscope. Specimens collected into anticoagulated tubes or syringes should be mixed properly to avoid clotting.

**Responsibility:** The appropriate technical section holds primary responsibility for rejecting clotted specimens.

#### CAPILLARY (FINGER STICK) SPECIMENS

Whenever possible, venipuncture is the specimen of choice. It is strongly suggested that LST's check with the appropriate section prior to finger stick collections if the test has not been properly validated for this specimen type.

**Responsibility:** The appropriate technical section holds primary responsibility for rejection finger stick specimens depending on the analyte.

#### PROJECTION FROM LIGHT

Some analytes are susceptible to degradation when exposed to light. Protect these tubes from light by

wrapping in aluminum foil is recommended. Examples of analytes susceptible to light are: erythrocyte protoporphyrin (EPP or FEP), Vitamin B6 & Vitamin C.

**Responsibility:** CLP or lab receiving area holds primary responsibility for rejecting specimens for exposure to light after consultation with the appropriate technical section (I)

#### ADD-ON

Specimens must be assessed for suitability for testing when add-on tests are requested. Add-ons for chemistry testing are generally not accepted for capillary specimens. Add-on for hematology capillary specimens may be allowed, i.e. CBCA added onto H&H. Refer to appendices to determine whether the analyte is within the acceptable time frame. Generally for plasma specimens for Chemistry, if tube with gel or tube with push down separator and specimen stored at room temperature, add-on routine chemistries up to 24 hours except: CO<sub>2</sub>, alcohol; No add-ons after 24 hours. For Serum Gold Top Gel Tubes, specimens stored at room temperature for a shift then refrigerated add-on chemistries up to 3 days, except CO<sub>2</sub>, alcohol, phenobarbital, phenytoin, carbamazepine, which cannot be added on. All specimens are saved for 7 days for follow up of mislabeling only. Requests for an exception must be brought to the Clinical Laboratory Director, section Technical Specialist, or Core Laboratory Supervisor.

**Responsibility:** CLP or lab receiving area holds primary responsibility for test requesting and retrieving specimens for add-on testing, with the exception of Blood Bank specimens. Any person receiving a call for an add-on is responsible for filling out an add-on form and giving this to CLP or lab receiving area.

Refer to appendices for detailed criteria for specific in-house tested analytes. Criteria has been established in keeping with the reagent/kit manufacturer or literature.

#### URINE SPECIMEN REJECTION GENERAL CRITERIA

Urine is formed in the tubules of the kidney by filtration and selective reabsorption and then stored in the bladder. The body uses this system to regulate the concentration of certain substances in the blood, to eliminate wastes, and to regulate the amount of water in the body. Urine specimens are used to diagnose and manage renal or urinary tract diseases and to detect metabolic or systemic diseases. The various methods of timings of urine specimen collections depend on what tests have been requested. The accuracy of a urinalysis is dependent on the quality of the specimen submitted. Care should be taken to submit a properly collected and transported specimen.

#### IMPROPERLY LABELED SPECIMEN

The container itself, not the lid, must be labeled according to the labeling policy. The label must adhere to the container if it is refrigerated. The clinics or floors are required to label the specimen with a Beaker label. Any labels for additional tests should be sent in the outer pocket of the specimen bag with the specimen.

**Responsibility:** CLP or lab receiving area holds primary responsibility for rejecting specimens for labeling errors, with the exception of Blood Bank/Surgical Pathology-Cytology specimens. These should be taken to the Blood Bank or Pathology/Cytology for rejection. Refer to *Specimen Labeling Policy* for specific details. (I)

#### DISCREPANCY OF INFORMATION ON REQUISITION AND CONTAINER LABEL

Patient information on the container's label and the requisition or electronic order must match.

**Responsibility:** If discrepancies are noted, CLP or lab receiving area will call the floor or clinic for clarification. The specimen will be rejected if the information on the container and the requisition cannot be reconciled. (I)

#### LEAKING SPECIMEN CONTAINER

The container lid must be secured so as to prevent the loss of urine or contamination of the specimen.

**Responsibility:** Leaking urine containers will be rejected at the discretion of the technical section area based on potential for bacterial contamination and quantity necessary for analysis. (I)

#### **IMPROPER CONTAINER**

Containers for routine random urines should be clean, able to hold 50 ml in volume, and must have tight fitting lids to prevent leakage. Urine sample from regional clinics may also be received in urine aliquot tubes. Do not wrap with parafilm to prevent leakage. Urines for culture must be submitted in a sterile container.

**Responsibility:** CLP or lab receiving area holds primary responsibility for rejecting these specimens. (I)

#### **IMPROPER PRESERVATIVE**

Some specimen collection procedures require a certain chemical preservative to be added to the container before urine collection. The specific preservative depends on the substances analyzed in the specimen. These chemicals are added to preserve the integrity of the specimen. Routine urinalysis and some chemistry analytes require no preservative. The preservative may be added after collection and upon receipt in the laboratory for some urine chemistry analytes. Some timed urine collection analytes (egg. URUA, send outs) require specific preservatives. RUTA's may be collected in BD Vacutainer UA Preservative Tubes (conical tubes with cherry red and yellow caps) but not urine gray top tubes.

**Responsibility:** CLP or lab receiving area holds primary responsibility for rejecting these specimens after consultation with the appropriate technical section. For samples delivered directly to other sections, that section takes responsibility for rejection. (I)

#### **INSUFFICIENT VOLUME**

See below for specific requirements for urinalysis.

**Responsibility:** CLP or lab receiving area holds primary responsibility for rejecting these specimens after consultation with the appropriate technical section. (I)

**DELAYS IN TRANSPORT.** Ideally, testing should be performed within 2 hours of collection. If this is not possible, the specimen can be left at room temperature up to 2 hours or refrigerated up to 24 hours, depending in the test(s) requested.

Urines for culture must be refrigerated as soon as possible after collection and during transport up to 48 hours. (I)

**Responsibility:** CLP or lab receiving area holds primary responsibility for rejecting these specimens after consultation with the appropriate technical section. For samples delivered directly to other sections, that section takes responsibility for rejection. (I)

#### **ROUTINE URINALYSIS**

The specimen of choice for routine urinalysis is a random or first morning voided urine specimen. The urine is submitted in a urine cup with secured lid and no preservative.

Ideally, the specimen should be analyzed within 2 hours of collection; however, this is not always possible. Reasons for rejection urinalysis specimens include:

#### **SPECIMEN COLLECTED IN IMPROPER CONTAINER OR WITH A PRESERVATIVE**



**Responsibility:** CLP or lab receiving area holds primary responsibility for rejecting these specimens after consultation with the appropriate technical section. (I)

**UNREFRIGERATED SPECIMENS RECEIVED IN THE LAB MORE THAN 2 HOURS POST COLLECTION.**

Refrigerated specimen received in the lab more than 24 hours post collection.

**Responsibility:** CLP or lab receiving area holds primary responsibility for rejecting these specimens after consultation with the appropriate technical section. (I)

**INSUFFICIENT VOLUME OF SPECIMEN**

Urine volume is dependent upon the amount of water excreted by the kidneys. Ten-twelve (10-12 ml) of freshly voided urine is recommended for routine urinalysis. The minimum acceptable volume for microscopic exam is 2.5 ml. Any volume less than 2.5 ml for microscopic urine (UMIC) will be rejected and only macroscopic results will be reported. For macroscopic analysis, approximately 0.5 ml (enough to wet the dipstick pads) is the minimum.

**Responsibility:** The appropriate technical section holds primary responsibility for rejecting these specimens.

**URINE CONTAMINATED WITH FOREIGN MATERIALS**

i.e., skin cleaners, fecal matter or vaginal discharge, tissue paper.

**Responsibility:** The appropriate technical section holds primary responsibility for rejecting these specimens. (I)

**USE OF MEDICATIONS THAT CAUSE ABNORMAL URINE COLOR**

(i.e., pygidium, azogantisin, azogantanol, nitrofurantoin and riboflavin) which may affect readability of reagent strips. Reportable colors include: amber, yellow, orange, red, green, brown or colorless. Other urine colors will be rejected with a comment.

**Responsibility:** The appropriate technical section holds primary responsibility for rejecting the UMAC test results on these specimens by entering the smart text "HRQ" in the result field of the UCMT test. The LIS will then reflex a UMICO to be done and reported.

**TIMED URINE SPECIMENS**

**SPECIMENS COLLECTED IN IMPROPER CONTAINER OR WITHOUT PROPER PRESERVATIVE**

Some 24-hour collection analytes (e.g., URUA, send outs) require a preservative while others require no preservative. The preferred urine additives are specified on the laboratory website for in-house and reference lab testing. Network Clinical Laboratories will accept timed urine collections without preservatives for in-house testing, provided the specimen has been refrigerated during collection and transport. For tests requiring an additive prior to analysis (calcium, magnesium, and phosphorus), the preservative can be added to the 24-hour collection in the laboratory upon receipt. All in-house 24-hour urine testing can be performed on the same specimen, but different aliquots may be necessary. Samples collected for less than 24 hours may be accepted as long as they represent timed collection, regardless of volume. The number of hours must be noted in LIS so the calculation is done appropriately.

**Responsibility:** CLP or lab receiving area holds primary responsibility for rejecting these specimens after consultation with the appropriate technical section. (I).

**A URINE SPECIMEN WILL BE REJECTED IF IT CONTAINED A PRESERVATIVE AND SHOULD NOT HAVE ONE.**

Likewise, if a specimen contained no preservative and should have preservative added or the wrong preservative was added, it will be rejected. Mayo has provided the laboratory with a list of alternate additives for tests they perform on 24-hour urine collections. Sending the test to Mayo maybe an option for specimens that contain

additives that are not validated by the Bassett healthcare Network Laboratories. Refer to Laboratory Manual webpage for send-out test preservative requirements. CLP or lab receiving area should check with the section Team Leader or the Clinical Laboratory Director for questions regarding alternative urine preservatives.

**Responsibility:** CLP or lab receiving area holds primary responsibility for rejecting these specimens after consultation with the appropriate technical section. (I)

#### **THE CONTAINER SHOULD BE SUFFICIENT TO HOLD A COMPLETE COLLECTION**

Occasionally, more than one container may be necessary for a complete collection. The volume of timed urine collections can vary greatly depending on the timeframe of collection and the amount of water excreted by the kidney.

There is no minimum requirement for timed urine collections, however at least 10 ml is recommended to perform most tests. Refer to Laboratory Manual webpage for send-out test volume requirements.

**Responsibility:** CLP or lab receiving area holds primary responsibility for rejecting these specimens after consultation with the appropriate technical section.

#### **URINE REQUESTS ON TIME SPECIMENS**

Urinalysis should not be performed on any timed (2, 12, 24 hour) urine specimens. Only random urine collections will be accepted for urinalysis.

**Responsibility:** CLP or lab receiving area holds primary responsibility for rejecting the specimens.

#### **CRITERIA FOR OTHER SPECIMEN TYPES**

Abnormal accumulations of fluids in a body cavity are removed by paracentesis (aspiration through a needle placed through the skin). Laboratory analysis of exudative fluid is needed to determine the cause of the abnormal volume of fluid. Routine evaluation of effusions of unknown cause include chemical analysis, cell counts and differential, microbiological examination and/or cytology. See cytology and microbiology procedure manuals or laboratory website for specific instructions for cytology analysis or microbiology testing, respectively.

In general, fluids (except CSF, which is a sterile plastic CSF tube) for chemistry analysis collected in a green top tube are preferred, but a sterile tube, yellow top plastic conical tube or red top are also acceptable. Hematology cell counts must be in lavender tube. Specimens brought to the laboratory in a syringe with needle attached will be rejected.

#### **BILE**

The Clinical Laboratory can performed crystal analysis on bile. The specimen should be collected in a sterile tube without additive or sterile specimen cup. This test is performed in Hematology. Reject if received in a non-sterile container and/or a container with an additive.

**Responsibility:** CLP or lab receiving area holds primary responsibility for rejecting these specimens after consultation with the appropriate technical section. (I) Rejected specimen will be delivered to the section for testing. Tech will follow the workflow on the Rejected Body Fluid Worksheet. (Body Fluid Procedure, Appendix A)

#### **CEREBROSPINAL FLUID**

Cerebrospinal fluid should be collected in a clean, sterile tube. Generally, 3-4 tubes are collected for laboratory analysis. Proper collection tubes are provided with the Lumbar Puncture Tray. Alternatively, plain sterile tubes, sterile yellow top conical tubes or purple top tubes for blood cell counts can be used.

Recommended laboratory order is: tube #1 for chemistries, tube #3 for cell count, tube #2 for culture, tube #4 for cytology. The provider may request a change in the numbered tube for the tests desired for each tube collection. Reject protein if more than 4 days old unrefrigerated. Reject cell count if more than 4 hours old. Deliver each tube to the appropriate technical section.

**Responsibility:** CLP or lab receiving area holds primary responsibility for rejecting these specimens after consultation with the appropriate technical section. (I) Rejected specimen will be delivered to the section for testing. Tech will follow the workflow on the Rejected Body Fluid Worksheet. (Body Fluid Procedure, Appendix A)

#### **CHEEK SWAB SAMPLE (BUCCAL CELLS)**

Buccal cells should be collected using the material and directions included in the Prenatal Cystic Fibrosis Screening kit. Patients should swab vigorously for at least 60 seconds. This is a send-out. Check reference lab for rejection criteria.

**Responsibility:** CLP or lab receiving area holds primary responsibility for rejecting these specimens. (I)

#### **GASTRIC CONTENTS**

Gastric contents for pH and blood are performed in Hematology using the Gastro cult Card. The specimen should be collected in a sterile urine cup and delivered to Hematology. Reason for rejection: grossly bloody even after centrifugation, >2 hours if pH testing, >24 hours room temperature for occult blood testing, >5 days refrigerated for occult blood testing, applied to fecal occult blood cards.

**Responsibility:** CLP or lab receiving area holds primary responsibility for rejecting time specimens after consultation with the appropriate technical section. (I) Rejected specimen will be delivered to the section for testing. Tech will follow the workflow on the Rejected Body Fluid Worksheet. (Body Fluid Procedure, Appendix A)

#### **JOINT (SYNOVIAL) FLUID**

Joint fluid should be collected in a red top or sterile tube for crystals and a purple top tube for cell counts. Deliver to Hematology. Cell counts are not performed on clotted samples, but a cytospin diff can be performed. Reject the cell count if specimen is clotted or collected in the wrong tube. Reject the crystal exam if in the wrong tube. A glass or plastic green or red top tube or sterile yellow top conical tube is preferred for chemistry analysis, any other Vacutainer tube will be rejected. Tubes without heparin may clot and lead to processing issues or rejection. For cell counts, reject if >2 hours at room temperature or >24 hours refrigerated.

**Responsibility:** CLP or lab receiving area holds primary responsibility for rejecting these specimens submitted after consultation with the appropriate technical section. (I) Rejected specimen will be delivered to the section for testing. Tech will follow the workflow on the Rejected Body Fluid Worksheet (Body Fluid Procedure, Appendix A)

#### **NASAL SWABS FOR EOSINOPHIL STAIN**

A sterile swab or two slides with thin smears of mucus is collected and delivered to Hematology. The specimen should be received within 3 days of collection. Reject if received in >3 days from collection or not in a sterile swab.

**Responsibility:** CLP or lab receiving area holds primary responsibility for rejecting these specimens after consultation with the appropriate technical section.

### PERICARDIAL/PLEURAL/PERITONEAL FLUIDS

Effusions from body cavities are generally large volume (>100 ml). For cell counts, the fluid should be collected in a purple-top tube or plain non-additive container and analyzed if not clotted. For chemistry analysis, the fluid should be collected in a green top tube as preferred. Tubes without heparin may clot and lead to processing issues or rejection. Reject for the following reasons:

- a. Specimen received in wrong tube
- b. Protein if >4 hours old unrefrigerated
- c. Body fluid pH
  - o Pleural fluid (Room Temperature) > 1 hour after collection
  - o Pleural fluid (on Ice) > 2 hour after collection
  - o Other fluids (on ice) > 4 hours after collection

**Responsibility:** CLP or lab receiving area holds primary responsibility for rejecting these specimens after consultation with the appropriate technical section. Rejected specimen will be delivered to the section for testing. Tech will follow the workflow on the Rejected Body Fluid Worksheet.

### SALIVA

After rinsing mouth with cold water, collect 2-3 mL of saliva in a clean container. Do not submit sputum or mouth washings. Unless samples are shipped via local courier, freeze samples and ship frozen via overnight shipper – FedEx, Airborne Express, etc. Check reference lab for specific collection procedure devices and for rejection criteria.

**Responsibility:** CLP or lab receiving area holds primary responsibility for rejecting these specimens.

### SEMEN

Post-vasectomy collection kits for semen analysis are available in Hematology. Post-vasectomy semen can be collected in a sterile plastic container or sterile urine cup. The specimen should be brought to the laboratory immediately after collection. Post-vasectomy specimens should be received within 2 hours or ASAP after collection. Samples will be rejected at >24 hours. Semen specimens are kept for 7 days, refrigerated.

**Responsibility:** CLP or lab receiving area holds primary responsibility for rejecting these specimens after consultation with the appropriate technical section. (I)

### STOOL

Stool cards are rejected if specimen is applied to the wrong side of the card, if the card has expired or if the card is received more than 14 days after initial application. One or two IFOB tubes may be submitted. Tubes may be stored up to 6 days at room temperature. Reject if tubes have expired or if > 6 days at room temperature. The time of collection or initials is not necessary on stool cards. Stool for occult blood sent in stool containers is stable for 48 hours; samples >48 hours will be rejected.

**Responsibility:** The appropriate technical section holds primary responsibility for rejecting.

## STOOL FOR WBC

Should be collected in sterile gray stool containers, sterile urine cups or red stool culture vials only. Any other collection device will be rejected. Stool specimens for WBC will be rejected if over 24 hours old or non-liquid (e.g., soft or formed) stool.

**Responsibility:** CLP or lab receiving area holds primary responsibility for rejecting. (I)

## A STOOL SAMPLE THAT IS SUBMITTED FOR CHEMISTRY TESTING (PH OR OSMOLALITY) OR *C. DIFFICILE* MUST BE LIQUID.

If a solid specimen is received, it will be rejected. Stool osmolality is ordered as a CMIS. Stool for electrolytes must be sent to a reference lab.

**Responsibility:** The appropriate technical section holds primary responsibility for rejecting.

## SPECIMENS FOR MICROBIOLOGICAL TESTING

Specimens submitted for culture, gram stain, or other Microbiological testing must be properly collected to obtain clinically meaningful results. Refer to *Criteria for Rejection of Requests for Microbiological Tests Procedure*.

**Responsibility:** The appropriate technical section holds primary responsibility for rejecting.

## NOTES

- a. When an unacceptable specimen is received, the floor/clinic/health center/provider is notified and a re-draw or new collection will be done if needed. Refer to *Specimen Recollection Policy*. Please note, some specimens may be considered “irretrievable” and may need to be processed to preserve specimen integrity. Refer to *Specimen Labeling Policy* for details. Affected tests are to be cancelled in the LIS stating the specific reason for the rejection, who was notified, date, time and initials or LIS code of the person making the phone call.
- b. An RL6 report is filled out if indicated. Rejected specimens are saved for one week in the technical section rejection box/rack.
- c. If a specimen is rejected on off-hours and it is not possible to contact clinic/health center, enter the rejection comments and verify, complete a CLP problem sheet and leave a note in communication book to make the phone calls the next business day. This assures the test is not printed as “pending”. Amending the report the next day to document phone calls should still occur as in VI-An above.
- d. In the event that a provider insists that a rejected specimen be assayed, refer them to the Clinical Laboratory Director or the pathologist on call.
- e. If the Clinical Director or pathologist approves processing of a rejected specimen, the ***Labeling of Irretrievable Laboratory Specimen*** form must be completed. (I)
  1. The completed form will be forwarded to the testing department along with the specimen.
  2. At verification of results, the verifying tech will enter the following comment:

**“Specimen received unlabeled/mislabeled. Processed with Pathologist approval. Results must be interpreted with caution.”**

**REFERENCES**

1. Department of Health and Human Services, Centers for Medicare and Medicaid Services, Centers for Disease Control and Prevention, Medicare, Medicaid, and CLIA Programs; Laboratory Requirements Relating to Quality Systems and Certain Personnel Qualifications; Final Rule, Federal Register. Jan 24, 2003. 42CFR Part 493. 1249 (a)-(b).
2. CLSI. Procedures for the collection of diagnostic blood specimens by venipuncture – 6<sup>th</sup> edition; approved guidelines H3-A6. Wayne, PA: CLSI 2007.
3. CAP Q-Probe 92-05, Hematology Specimen Acceptability. College of American Pathologists; 1993.
4. NCCLS. Collection and Transportation of Single Collection Urine Specimens GP8-P, 1985.
5. CLSI. Urinalysis Approved Guideline, 3<sup>rd</sup> edition. CP16-A3, 2009.
6. New York State Department of Health Title 10: Rules and Regulations, Part 58. Effective date: December 02, 2020

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