

The purpose of this section is to outline the proper collection and handling of specimens. It is critical that these guidelines are followed closely in order to produce accurate and reliable results. Any questions should be directed to client services at 516-719-1100.

Unacceptable Specimens:

Unacceptable specimens will not be tested. Specimens will be rejected if the following instances occur:

- Improper collection and/or handling.
- Insufficient volume.
- Unlabeled or mislabeled specimens.

When specimens must be rejected, the laboratory will notify the physician. Unless otherwise noted, specimens can be stored at 2° C to 8° C and should be submitted to the laboratory on the day of collection. See individual test listings for proper collection and handling of specimens.

Specimen Handling:

The proper handling of specimens will affect whether or not the specimen is suitable for analysis. Unfortunately, the laboratory cannot always determine the condition of the specimen upon its arrival. It is imperative to handle specimens with care.

Common specimen handling problems include:

1. Delays in centrifugation of blood for plasma or serum specimens. This can cause a variety of analytes to be affected.
 - For routine tests, glucose and carbon dioxide will be decreased.
 - Potassium and lactic acid dehydrogenase can be greatly increased.
 - Modest increases can occur for cholesterol and some enzyme tests.
2. Delays in mixing tubes, which contain anticoagulants. Specimen collection tubes containing anticoagulants or other additives should be thoroughly mixed immediately after collection by gently inverting the tube several times.
 - Delays in mixing can result in clumping of platelets or clots which are too small to be readily detected. Invalid test results that may occur include: complete blood count, platelet count, prothrombin time, partial thromboplastin time, and other coagulation tests.
3. Insufficient blood to anticoagulant ratio.
 - Lavender-top (EDTA) tubes must be filled at least 1 half full.
 - Light blue-top (3.2% sodium citrate) tubes must be filled entirely (at least 90% full) otherwise the results for coagulation tests will not be valid.
4. Delays in preserving specimens.
 - Unless otherwise indicated, preservatives for 24-hour urine specimens should be included in the container at the start of collection.
 - When frozen specimens are required, the specimen should be processed and frozen within 4 hours.
 - Special instructions are included for very unstable analytes.

Specimen Collection and Transport:

Supplies necessary in order to collect, process, and transport specimens for testing are provided by the laboratory. It is important to use collection tubes provided by our laboratory. The laboratory utilizes bar-coded, robotic systems to ensure specimen identity and integrity. The robotic system requires tubes that are of consistent size. In addition, we provide plastic instead of glass collection tubes. Plastic prevents breakage during transport and during manual or robotic processing.

Specimen collection devices used in the alphabetical test listing include:

- Anaerobic Transport System or eSwab™: Tube or container for anaerobic cultures
- APTIMA® Hologic®: Transport for *Chlamydia trachomatis*/*Neisseria gonorrhoeae* (GC) and *Trichomonas vaginalis* amplification testing
- Bactec®: Blood culture (bacteria) media
- Light Blue-Top: 1.8-mL or 2.7-mL, with 3.2% sodium citrate anticoagulant
- Carey-Blair: Transport media for stool culture and GI PCR Panel
- CSF: 8.0-mL sterile vial
- CSF Culture: 8.0-mL VACUTAINER® without clot activator
- CTM: Chlamydia viral transport media
- Dark Blue-Top: 7.0-mL trace metals tube
- Gold-Top: 5.0-mL tube with gel barrier and clot activator
- Grey-Top: 6.0-mL tube with potassium oxalate/sodium fluoride
- Green-Top: 6.0-mL tube with heparin (lithium or sodium) anticoagulant
- Isolator®: Standard or pediatric tube for fungal and/or AFB (blood or bone marrow) culture
- Lavender-Top: 3.0-mL tube with EDTA anticoagulant
- Lim Broth: Group B Streptococcus by PCR
- Mint Green-Top: 4.5-mL tube with lithium heparin and gel barrier
- O&P Kit: Ova and parasite transport kit for stool
- Plain, Red-Top: 6.0-mL tube with clot activator
- Pink-Top: 6.0 mL tube
- Slide: Slides for smear exam
- Sputum Collection Kit: For acid-fast culture
- Sterile: Various sterile transport tubes and containers
- Swab: Swab for culture collections
- Tube: Various non-sterile transport tubes and containers
- UTM: Universal transport media
- Rapid Urea Broth Collection Kit: for *H. pylori* Screen
- Yellow-Top: 10-mL ACD tube

Urine collection containers supplied are as follows:

- Culture transport tubes with preservative
- 24-Hour urine collection containers with or without preservative added
- Urine tubes and screw-capped containers of various sizes

Contact the Northwell Health Laboratories Warehouse for all supplies at 516-719-1021.

Urine Collection:

24-Hour Urine Collections: Northwell Health Laboratories provides 24-hour urine collection containers.

Use the following procedure for correct specimen collection and preparation:

- Advise patient of presence of potentially hazardous preservatives in collection container.
- Instruct patient to discard **first-morning** specimen and to record time of voiding.
- Patient should collect all subsequent voided urine for remainder of the day and night.
- Collect **first-morning** specimen on day 2 at same time as noted on day 1.
- Please mix well before aliquoting and provide total volume of 24-hour urine collection.

See “Urine Preservatives” in “Special Instructions” for multiple collections.

Random Collections: For routine analysis and microscopic evaluation, have patient void into a clean container. Specimen should be capped, labeled, and refrigerated until courier pickup time. A “clean-catch” or midstream specimen is preferred.

- Patient should first void a small amount of urine which is discarded. Patient should then collect midstream before voiding is completed.

For culture, a portion of the specimen should be aliquoted into a grey urine culture transport tube (boric acid).