



# Specimen Collection and Test Catalog

Gainesville, Florida



Revised 08-22-2023

# Introduction

The UF Health Medical Laboratories are privileged to serve you and your patients. Our team is composed of nationally recognized Pathologists in a wide variety of specialties and subspecialties along with laboratory staff licensed in the State of Florida. We strive to provide the highest quality patient care using state-of-the-art technology, with quick, accurate and professional attention to each patient case in the accredited laboratory environment. We are open 24 hours a day, seven days a week for routine and emergency laboratory testing.

## UF Health Medical Laboratories are licensed and accredited by:

- The Centers for Medicare and Medicaid Services (CMS) under the Statutes of the Clinical Laboratory Improvement Amendments (CLIA). Our CLIA Numbers are:
  - (w) = Waived
  - 1. **10D0665884** – UF Health Shands Hospital (Core Lab, Blood Gas Lab, Bone Marrow Transplant Lab, Microbiology, Blood Bank/Transfusion Services, Clinical Laboratory Support Center (CLSC), Cytology, and Surgical Pathology)
  - 2. **10D0997531** – UF Health Medical Lab – Rocky Point (Transplant/Histocompatibility, Hematopathology, Cytology, and Histology)
  - 3. **10D0726675** – UF Health Medical Lab – Medical Plaza
  - 4. **10D0726677(w)** – UF Health Shands Hospital – Point of Care (POC)
  - 5. **10D2059622** and **10D2167986(w)** – UF Health Shands Emergency Center Laboratory – Springhill
  - 6. **10D2116368** and **10D2165036(w)** – UF Health Shands Emergency Center Laboratory – Kanapaha
  - 7. **10D0935984** and **10D2172651(w)** – and UF Health Florida Surgical Center
  - 8. **10D2192875** and **10D2190870(w)** – UF Health Surgical Center – The Oaks
  - 9. **10D1082364** – UF Health ShandsCair Pensacola
- The College of American Pathologists' Commission on Laboratory Accreditation. Our CAP laboratory accreditation numbers are:
  - 1. **1482301** – UF Health Medical Lab – Shands Hospital
  - 2. **1482314** – UF Health Medical Lab – Medical Plaza
  - 3. **7178590** – UF Health Medical Lab – Rocky Point
  - 4. **8743573** – UF Health Shands Emergency Center Laboratory – Springhill
  - 5. **9472595** – UF Health Shands Emergency Center Laboratory – Kanapaha
  - 6. **7196156** – UF Health Florida Surgical Center
  - 7. **9587263** – UF Health Surgical Center – The Oaks
  - 8. **7223251** – UF Health ShandsCair Pensacola

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## Contact Information and Maps

We are open 24 hours a day, seven days a week for routine and emergency laboratory testing.  
Contact Customer Service at **352-265-0522** with questions.

### **Current maps and directions for UF Health Shands Hospital Draw Stations can be located at:**

#### **UF Health Medical Lab – Shands Hospital**

<https://ufhealth.org/locations/uf-health-medical-lab-shands-hospital/directions-and-hours>

#### **UF Health Medical Lab – Medical Plaza (Cancer Center Lab)**

<https://ufhealth.org/locations/uf-health-medical-lab-medical-plaza/directions-and-hours>

#### **UF Health Medical Lab – Heart & Vascular and Neuromedicine (HVN) Hospitals**

<https://ufhealth.org/locations/uf-health-medical-lab-heart-vascular-and-neuromedicine-hospitals/directions-and-hours>

#### **UF Health Medical Lab – Rocky Point**

<https://ufhealth.org/locations/uf-health-medical-lab-rocky-point/directions-and-hours>

**UF Health Medical Lab – Shands Hospital**  
**UF Health Medical Lab – Rocky Point**  
**UF Health Medical Lab – Medical Plaza**  
**UF Health Emergency Center Labs – Springhill and Kanapaha**

## Notice to Physicians

**To: Physicians and Clinical Staff, Clinics, and Community Physician Offices**

**From: Julie Kingery, MD, Laboratory CLIA Medical Director**  
**Stacy Beal, MD, Emergency Center Laboratories CLIA Medical Director**  
**Mary Reeves, MBA, Administrative Director of Clinical Laboratories and Operations**

**Date: July 26, 2023**

UF Health Medical Laboratories are committed to providing excellent laboratory services to you and your patients. In an effort to comply with federal laws and regulations, our laboratories adopted a Clinical Laboratory Compliance Program as recommended by the Office of Inspector General (OIG). The OIG further recommends that clinical laboratories send an annual notice to physicians and other providers advising them of the compliance program. This letter serves as the annual notice and provides helpful information regarding the ordering and processing of tests.

### LABORATORY ORDER FORMS

In order to provide excellent patient care, we must receive a complete laboratory order. Written laboratory orders must be legible as laboratory clerks transcribe them. The order, whether written or electronic via EPIC system, must contain the following information or the laboratory may be unable to process the specimen properly and in a timely manner. We request your help in providing compliant orders that contain these critical items:

1. Test or evaluation being ordered/requested.
2. Legible Signature of ordering Physician, PA, Resident, or APRN as outlined in [CP02.058](#). All order forms requesting laboratory tests must be authenticated by the author. The method used can either be hand written or an electronic signature. The illegible signature must have a legible printed identity of the signature. Stamp signatures are NOT acceptable. If the signature requirements are not met, the medical necessity for the service requested and billed cannot be substantiated.
3. The Attending name, ID number, and address. PAs, APRNs, and Residents can order without an Attending signature, however the Attending Physician's name and number are required for billing purposes and must be legible.
4. ICD-10 codes, vital signs, symptoms, or diagnoses that relate directly to the reason the test(s) are being ordered.
5. Patient Medical Record number, if patient has a record in the UF Health system.
6. Patient demographics; patient's full name, home address, phone number, and date of birth (DOB).
7. Insurance and/or Medicare Information.
8. If the sample was drawn by someone other than Lab staff, the specimen collection information, date and time must be indicated.

For your convenience, for Non-UF Health providers, UF Health Medical Laboratories provides laboratory requisitions pre-printed with your clinic or office information that contain ample space for all patient demographics. These can be requested from Laboratory Administration. If you use any other form to submit laboratory orders, all of the necessary information listed above must be included. Please be advised that if ordering parties do not provide all required diagnosis codes or patient information, your patient's care may be delayed.

### MEDICAL NECESSITY FOR OUTPATIENT TESTING

Medicare will only pay for tests that meet the Medicare coverage criteria and are reasonable and necessary to treat or diagnose an individual patient. The physician is responsible for ordering medically appropriate tests with the corresponding supporting diagnostic or medical necessity information. Please ensure that the test(s) you order meet medical necessity. To shift financial liability to patient when tests are not medically necessary, the Advanced Beneficiary Notice (ABN) must be discussed with and signed by the patient before the service is provided to allow enough time for the patient to make an informed decision about the test(s) ordered.



You can refer to the following web sites for the most current national and local Medicare review policies related to laboratory services:

To search for Lab National Coverage Determinations (NCDs), see Centers for Medicare and Medicaid Services [Medicare Coverage Database](#)

To search for Local Coverage Determinations (LCDs) see First Coast Service Options – [LCDs](#)

Coding information was moved out of LCDs into Local Coverage Articles (LCAs), which are available via links embedded in the LCDs.

Please note that the OIG takes the position that an individual who knowingly causes a false claim to be submitted may be subject to sanctions or remedies available under civil, criminal, administrative law and/or civil monetary penalties.

## **ORGAN OR DISEASE RELATED PANELS**

Organ or Disease Related Panels should be ordered only if all components are medically necessary.

When a test or some tests within a panel are not medically necessary, only medically necessary tests should be ordered separately.

Do not order full panels and individual components for test names found in those panels for the same specimen draw on a patient, causing duplicate orders of tests on same sample.

## **ICD-10**

You must provide complete diagnosis information for each test you have ordered. Accurate and complete ICD-10 codes are required and necessary for proper billing. Physicians should provide the complete ICD-10 code(s) with 7 digits for the highest level of specificity, as pertinent. If a narrative reason is submitted instead, please provide enough detail so it can be coded to the highest level of specificity for ICD-10 coding.

## **MEDICARE CLINICAL LABORATORY FEE SCHEDULE (CLFS)**

Medicare reimburses for outpatient hospital clinical diagnostic laboratory services based on the Medicare Laboratory Fee Schedule. CMS makes a separate payment under CLFS only when specific criteria are met. The CLFS can be found [here](#). Medicaid reimbursement for laboratory services is equal to or less than the amount of Medicare reimbursement. Surgical Pathology services are paid under the Medicare Physician Fee Schedule ([MPFS](#)).

## **SPECIMEN COLLECTION INFORMATION**

A Specimen Collection Manual is available on the UF Health Shands Bridge [online](#). This manual includes information regarding collection requirements for all types of specimens, including tissue and cytology specimens. For non-UF Health physicians, the manual is available at this [link](#).

## **REFLEX TESTING INFORMATION**

Reflex Tests are additional tests performed according to the established laboratory protocols as standard of care. They are indicated when initial results meet predetermined criteria, approved by the laboratory director, necessitating a related test which is medically appropriate. They do not require an additional order from the ordering provider. Reflex tests are billed when performed. See below for the separate list of reflex tests.

For questions or concerns about reflex testing, please contact Customer Service at (352) 265-0412 or the Clinical Consultants listed below.

## CLINICAL CONSULTANTS CONTACT INFORMATION

UF Health Shands Clinical Laboratory Medical Directors are available to assist you with laboratory testing questions, including ordering and interpretation:

**Core Laboratory** (Chemistry, Urinalysis, Blood Gas Lab, Hematology, and Coagulation) – Dr. Maximo Marin at (352) 594-4953 and Dr. Neil Harris at (352) 594-4717

**Microbiology** – Dr. Julie Kingery at (352) 999-4934

**Blood Bank** – Dr. Peter Pelletier at (352) 594-0490 or Dr. Faisal Mukhtar at (352) 594-0487

**Transplant (HLA)** – Dr. Steven Goldstein at (352) 627-2223

**Hematopathology** – Dr. Robert Seifert at (352) 627-2039

**Cytology** – Dr. Marino Leon at (352) 627-9260

**Histology** – Dr. Joanna Chaffin at (352) 627-2052

**Surgical Pathology** – Dr. Marie Rivera-Zengotita at (352) 627-9251

**Immunohistochemistry (IHC)** – Dr. Sara Falzarano at (352) 627-9254

**Point of Care** – Dr. Clive Wasserfall at (352) 273-9298

Contact Customer Service at (352) 265-0412 with any questions related to reference (Sendouts) laboratory testing.

Thank you for taking the time to review these important topics.

# UF HEALTH MEDICAL LABORATORIES

## Reflex Test List

**Reflex Tests** are additional tests performed according to the established laboratory protocols as standard of care. They are indicated when initial results meet predetermined criteria, approved by laboratory director, necessitating a related test which is medically appropriate. They do not require an additional order from the ordering provider. All reflex tests are billed for. The list below includes reflex tests for UF Health Medical Laboratories. Revised 6/14/2023. For questions about specific referral laboratory reflex policies, please contact Laboratory Customer Service (352) 265-0412.

Core Laboratory		
Initial Test	Reflex Criteria	Reflex Test
HIV Antibody-Antigen Combo	Positive	Supplemental Confirmatory Assay
HCV Antibody Screen with Reflex to Quantitative	Positive	HCV Quantitative RNA PCR
Hepatitis B Surface Antigen (First Time)	Positive	Hepatitis B Surface Antigen Confirmation
Hepatitis B Core Total Antibody	Positive	Hepatitis B Core IgM Antibody
Sickle Cell Screen	Positive	Hemoglobin Electrophoresis
PFA Platelet Function Assay	Elevated Collagen Epinephrine Closure Time (>190 seconds)	Platelet Function Confirmation using the Collagen/ADP Cartridge
Urinalysis with Microscopic, Reflex to Culture	Leukocyte Esterase Small or Larger, Nitrite Positive, or WBC ≥10	Urine Culture
Urine Drug Screen Test:  Amphetamines Cocaine Cannabinoids Barbiturates Benzodiazepines Oxycodone Methadone Opiates Fentanyl	Positive for any of the drugs.  (NICU/34/35/95 ONLY)	Confirmation by liquid chromatography tandem mass spectrometry: Amphetamines Cocaine Cannabinoids Barbiturates Benzodiazepines Oxycodone Methadone Opiates Fentanyl
Syphilis Screen	Positive	T. pallidum EIA Criteria: positive Reflex test: RPR If RPR positive: RPR titer If RPR negative: TPPA
TSH	Increased TSH/ Free T4	If High: Reflex Free T4 and TPO. If Low: Reflex Free T4 and Total T3.



Point of Care		
Initial Test	Reflex Criteria	Reflex Test
Rapid Strep A Screen (Waived)	Negative	Throat Culture
WB Total B-HCG (POC) (Non-Waived)	Indeterminant	HCG Quantitative Blood (Core Lab)
Microbiology		
Initial Test	Reflex Criteria	Reflex Test
Bacterial Culture	Positive	Identification of pathogens and susceptibility when applicable.
Cryptococcus on Meningitis Encephalitis Panel PCR for CSF	Positive	Cryptococcus Antigen Titer (Once per source per 5 days.)
Cryptococcus Antigen for Blood or CSF with no ME Panel Ordered	Positive	Cryptococcus Antigen Titer (Once per source per 5 days.)
Gastrointestinal Panel PCR for Stool	Positive for <i>Salmonella</i> , <i>Vibrio</i> , <i>Plesiomonas</i> , <i>Yersinia enterocolitica</i> , <i>Cyclospora</i> , STEC (Shiga like toxin producing <i>E. coli</i> ) or <i>E. coli</i> O157	Reflex to Culture, and if growth recovered, Susceptibility (only for <i>Salmonella</i> , <i>Yersinia</i> , <i>Vibrio</i> , & <i>Plesiomonas</i> ) and/or sent to FL Department of Health for further workup.
Legionella pneumophila on Pneumonia PCR for Sputum or BAL.	Positive	Send original specimen to the FL Department of Health for further workup.
Fungal Culture	Positive	Identification of yeast and fungi and susceptibility on yeast isolates when applicable.
AFB Culture	Positive	Identification of Mycobacteria and susceptibility when applicable. If acid-fast bacteria or mold/yeast are recovered on bacterial culture, the appropriate AFB or Fungus Culture order will be added for identification and/or susceptibility as applicable.
C. Diff PCR	Toxin Positive PCR	Reflex to Confirmatory Toxin Test

C. auris from infection culture	Positive	Send isolate to FL Department of Health as an isolate of interest. Currently being forwarded to Reference Lab in TN for confirmation and susceptibilities.
<b>Blood Bank</b>		
<b>Initial Test</b>	<b>Reflex Criteria</b>	<b>Reflex Test</b>
All test specimens, excluding Type & Screen specimens.	Required per Regulatory Agencies (Historical ABORH is the normal parameter.)	ABO/Rh Confirmation
ABO/Rh	*Discrepancy (Forward & reverse match is the normal parameter.)	ABO/Rh Resolution
Type & Screen (ABO, Rh & Antibody Screen)	Antibody Screen – Positive	Any or all the following: Antibody Identification Panel Crossmatch Neutralization Enzyme Treatment Antibody Titer Prewarmed Antibody Panel Selected Cell Antibody Panel Differential (Triple) Adsorption Autologous Adsorption DTT Treatment Phenotyping/Genotyping
Antibody Screen	Positive During Pregnancy	Antibody Identification and Antibody Titer
Additional Packed Cell Units*	*Not Electronic XM Eligible (EXM is the normal parameter.)	ABO/Rh, Antibody Screen, Serologic XM
On-Demand Blood Products	Electronic Crossmatch Eligible	Electronic Crossmatch
Direct Antiglobulin Test (DAT)	Positive	Any or all the following: Poly DAT IgG DAT C3 DAT Elution Antibody Identification Panel Antibody Absorption (Warm &/or Differential)
Rh-Ig Work Up	Rh negative mother or Rh Partial-D mother and Rh positive or Rh Unknown baby.	Mother: Fetal/Maternal Bleed Screen (Rosette Screen) Antibody Identification Panel Kleihauer-Betke Baby: DAT DTT/Enzyme

Transfusion Reaction Investigation	Patient exhibited certain symptoms or adverse reactions when administered blood product.	Any or all the following tests: Clerical & Visual Check Repeat ABORH on Pre-& Post Sample Repeat Antibody Screen on Pre-& Post Sample CBC with Manual Differential Reticulocyte Count Urinalysis Poly DAT IgG DAT C3 DAT Haptoglobin LDH & AST BUN/Creatinine Total & Direct Bilirubin PT, PTT, Fibrinogen, and D-Dimer
<b>Anatomic Pathology</b>		
<b>Surgical Pathology</b>		
Initial Test	Reflex Criteria	Reflex Test
Pathologist review of slides	Invasive Breast Carcinoma <i>All anatomic sites</i>	IHC or image analysis for ER, PR, Ki67 and Her2neu (88361 image analysis x4 or 88360 manual x4). If Her2 equivocal, FISH testing will be performed (88368)
	Breast Ductal Carcinoma in-situ	IHC for biomarkers ER, PR, and Her2neu. If Her2 equivocal, FISH testing will be performed
	Colon Cancer Endometrial Cancer Upper tract urothelial carcinoma Ovarian endometrioid adenocarcinoma Clear cell adenocarcinoma of uterus Small bowel adenocarcinoma <i>All anatomic sites</i>	MMR IHC and/or MSI (88342 x4). Molecular testing at pathologist's discretion* Reflex BRAF IHC and/or MLH1 promoter methylation if MLH1/PMS2 loss for colorectal carcinoma Reflex MLH1 promoter methylation for MLH1/PMS2 loss in endometrial cancer or ovarian endometrioid and clear cell carcinoma
	CNS neoplasms	Any or all the following: Surrogate IHC for biomarkers (IDH1, H3K27M, etc.) NGS – platform at pathologist's discretion FISH and/or microarray for 1p/19q co-deletion MGMT methylation status Methylation profiling
	Melanoma <i>All anatomic sites</i>	BRAF IHC and/or PCR (88341 x1)

	Non-small cell carcinoma	PDL1
	Gastric and/or esophageal cancer	Her2, PDL1 IHC Her2 FISH if IHC is equivocal EBER ish MMR IHC and/or MSI (88342 x4). Molecular testing at pathologist's discretion* Reflex BRAF IHC and/or MLH1 promoter methylation if MLH1/PMS2 loss for colorectal carcinoma NGS
	Endometrioid serous carcinoma	Her2, PDL1 IHC Her2 FISH if IHC is equivocal
	Lung adeno/non-small cell carcinoma	ALK, EGFR, ROS1, NGS
	Pheochromocytoma and extra-adrenal paraganglioma	Succinate dehydrogenase (SDH)-B immunohistochemistry (send out testing)
	Penile carcinoma	HPV in situ hybridization testing
	Cervical invasive carcinoma	PDL1-CPS scoring
	Sentinel nodes	If negative microscopically with cancer diagnosis at the uterus/cervix, reflex keratin IHC
	Head and neck carcinoma, oropharyngeal	P16 or HPV in situ hybridization testing
	Sarcomas or spindled cell tumors <i>All anatomic sites</i>	Any or all the following as necessary for diagnosis/prognosis: GatorSeq Sarcoma NGS Cytogenetics FISH
	Anal squamous cell carcinoma:	PD-L1 IHC
	Gastrointestinal stromal tumors (GIST):	NGS (to include at least KIT, PDGFRFA, SDHA, SDHB, SDHC, SDHD, NF, BRAF, KRAS, HRAS, PIK3CA) with reflex to SDHB IHC if "wild-type"

Cytopathology		
Initial Test	Reflex Criteria	Reflex Test
Pap test	ASCUS, if requested by the clinical team as reflex test.	HPV
Fluids cytology	Lymphocytosis, R/O Lymphoma	Flow cytometry
Fluids cytology	Lymphocytosis, R/O PTLD	Epstein Bar Virus, EBER ISH
Neck FNAs	Squamous cell carcinoma	HPV ISH
Thyroid	Indeterminate result: <ul style="list-style-type: none"> <li>- FLUS</li> <li>- Suspicious for Follicular neoplasm</li> <li>- Suspicious for malignancy</li> </ul> In some these cases, if requested by the clinical team as reflex test.	ThyroSeq, Molecular testing
Lung FNAs	<ul style="list-style-type: none"> <li>- Adenocarcinoma</li> <li>- NSCCA, favor adenocarcinoma</li> <li>- Non-small cell carcinoma</li> </ul>	NGS, GatorSeq ALK IHC with reflex to FISH ROS1 IHC with reflex to FISH PD-L1
Lung FNAs	Squamous cell carcinoma	PD-L1
Gastrointestinal FNA	GIST, if requested by the clinical team as reflex test.	NGS GatorSeq
Urine cytology	Atypical cells or Suspicious, if requested by the clinical team as reflex test.	Urovysion FISH (88120)
Hematopathology		
Initial Test	Reflex Criteria	Reflex Test
Peripheral blood smear	Abnormal	Flow cytometry
Bone Marrow, blood, body fluid, lymph node or surgical pathology specimen review	Myeloid neoplasm	MDS/FISH panel and/or cytogenetic studies and/or next generation sequencing and/or targeted molecular studies (e.g., JAK2, FLT3) and/or relevant additional predictive/prognostic immunophenotyping.

	AML	AML FISH panel and/or cytogenetic studies and/or next generation sequencing and/or targeted molecular studies and/or relevant additional predictive/prognostic immunophenotyping.
	Myeloproliferative neoplasm	Targeted molecular studies (e.g., JAK2) and/or relevant studies as per Myeloid neoplasm above.
	ALL	FISH and/or cytogenetic studies and/or next generation sequencing studies and/or targeted molecular studies including IgH or TCR gene rearrangement analysis and/or additional predictive/prognostic immunophenotyping.
	Plasma cell neoplasm	Myeloma prognostic panel by FISH and/or cytogenetic studies and or additional molecular studies and/or additional predictive/prognostic immunophenotyping.
	Lymphoma	FISH and/or cytogenetic studies and/or targeted molecular studies including MYD88 mutation, IgH or TCR gene rearrangement and/or next generation sequencing studies and/or additional predictive/prognostic immunophenotyping.
	Other hematopoietic neoplasm (e.g., mast cell neoplasm, histiocytic neoplasm)	Appropriate FISH panel and/or cytogenetic studies and/or next generation sequencing and/or targeted molecular studies and/or relevant additional predictive/prognostic immunophenotyping.

*\*In the case of tissue specimens, the requirements for reflex testing to complete the diagnosis (special stains, immunohistochemical stains, molecular testing, cytogenetics, etc.) will be determined by the pathologist attending the case. As this determination varies differential diagnosis) and clinical scenario, among many other confounding factors, the entirety of possible reflex combinations is beyond the scope of this document. The pathologist will act as a consulting physician and subsequent tests and orders for diagnosis will be medically relevant and validated by either FDA approval or internal validation."*



## Collection Guidelines

Proper patient preparation, timing of specimen collection, selection of specimen container type including preservatives and anticoagulants, correct sample volume, appropriate sample labeling, specimen transportation, and relevant patient clinical data are critical for successful testing, timely reporting of laboratory results, and proper diagnosis.

**Laboratory Order:** Orders may be transmitted to the laboratory electronically or in paper format.

Orders should include:

- 2 patient identifiers: Name and either Shands patient Medical Record Number or Date of Birth.
- Ordering provider Name, ID Number, and outpatient clinic location.
- Qualified signature (Ordering Physician, PA, APRN and/or Resident).
- Diagnosis code (ICD-10) for each test ordered.
- Intended specimen Collection date and time.

### Patient Preparation

The patient should be instructed regarding the pre-testing requirements prior to arrival at a draw site. These may include fasting, special dietary consumption (e.g., avoidance of high-dose biotin ingestion), or other requirements.

### Patient Identification

Each patient must be identified positively by means of two patient identifiers before collecting a specimen for clinical testing. Where available, a Beaker Rover device should be used to positively identify the patient by scanning the patient's ID band. The patient's identity should be verified by asking the patient to identify himself or herself whenever it is practical (request patient to state their name and date of birth).

**Patient Safety Note: Room number or physical location cannot be used as an identifier.**

**Registered-Wrist-Banded Patients:** Compare two identifiers (full patient name and the Shands facility medical record number) on the identification band to another document such as the order form or specimen collection label to confirm that you have identified the correct patient.

**Patient Safety Note: For all inpatients, ED patients, and those outpatients having an operative or invasive procedure, a wrist band is required. If the patient wrist band is not present or is illegible, contact the primary caregiver and have the patient properly identified and wrist band applied before proceeding with specimen collection.**

**Non-Wrist-Banded Outpatients:** Ask the patient their full name and date of birth. Compare two identifiers (full patient name and date of birth) to another document such as the order form or specimen collection label to confirm that you have identified the correct patient. For patients who are young or incoherent, a family member, guardian, nurse or physician may help identify the patient.

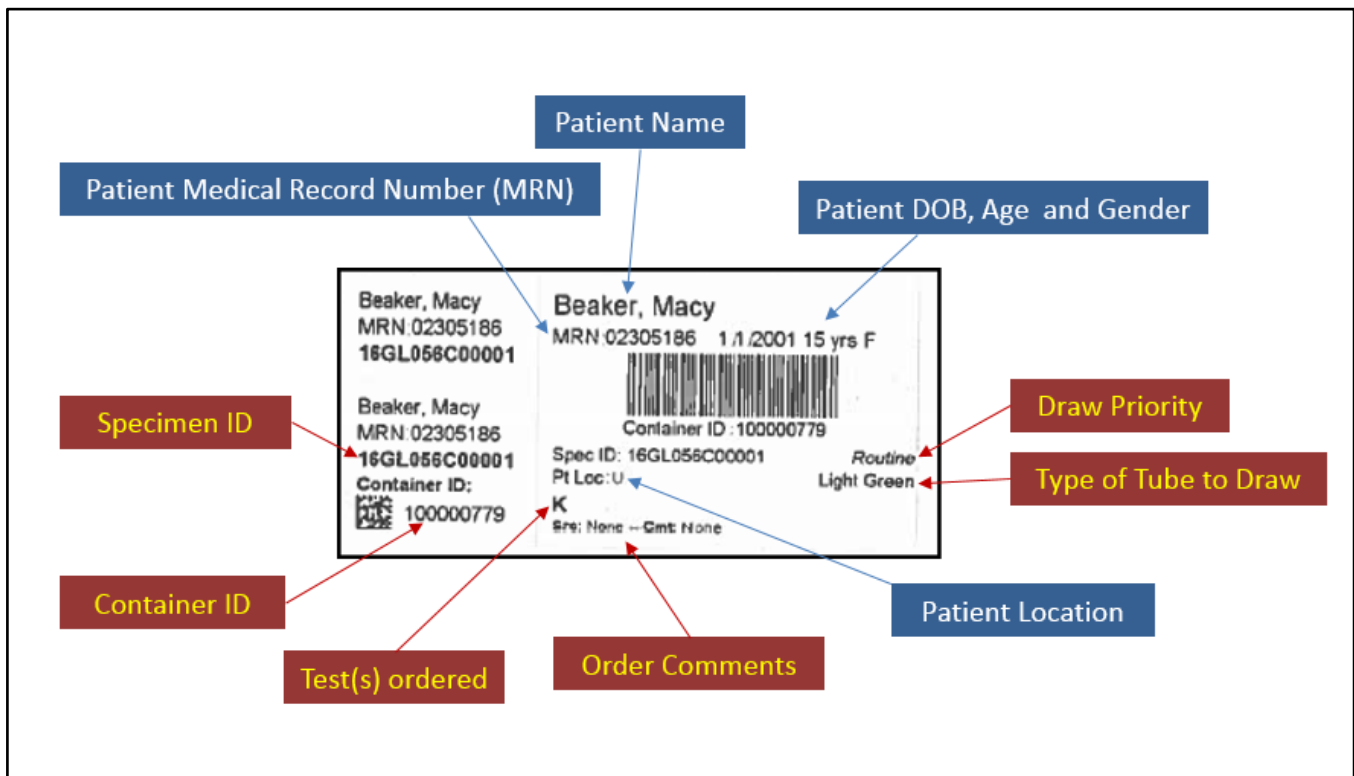
**Special Kits for Reference Lab Testing:** For tests requiring special kits, refer to the kit's instructions for specimen collection guidelines. For more information about these kits, call the Sendouts Department at 352-594-0481 or 594-0482.

## Specimen Labels

Each primary specimen container (innermost container that actually holds the biologic specimen) must be labeled at the time of specimen collection in the presence of the patient:

- Patient's first and last name and a second identifier (DOB or medical record number, account number, or accession number).
- Date and time of collection of specimens. Accurate collection date and time is vital for result review and proper patient care.
- Initials or ID of the person collecting the specimen.
- Exact anatomical site description for specimens such as body fluids and tissue specimens. Slides may be accepted with one identifier so long as the secondary container has two identifiers. Two identifiers are preferred.

Computer generated labels are recommended. If preprinted labels are not available, handwritten patient information (in ink) is acceptable if legible.



**Patient Safety Note:** Every specimen tube or container must be labeled regardless of size. Place label on the container, **NOT on the LID or COVER** to minimize the risk of mis-identification if multiple specimens are being processed.

## Specimen Rejection

1. Patient information on the specimen container and the order (electronic or paper order) must match. If discrepancies cannot be resolved, the specimen must be recollected.
2. Routine blood and body fluid specimens that are not labeled properly or do not meet other acceptability guidelines (inadequate specimen, improper collection, handling or transportation), will be rejected. The ordering physician/unit is to be notified with a request to recollect the specimen(s).
3. Corrections on the label or forms may be allowed in certain circumstances (e.g., downtime labels without a collection time). All errors must be corrected by the personnel involved in the collection.
4. In certain rare cases when a specimen cannot be recollected due to either the timing of the specimen collection or the site that the specimen was obtained from (i.e., CSF specimens, tissue specimen from surgery), the laboratory medical director, pathologist or pathology resident, in consultation with the ordering physician may authorize testing after the specimen is properly labeled by the person who made the initial labeling error.
5. Patient Safety and Quality Note: SUF laboratories reserves the right to reject any specimen not meeting safety, labeling, collection, transportation, minimum volume or other requirements as defined in this manual and test catalog.

### Examples of Unacceptable and Rejected specimens include:

1. Specimen tube/container with no label.
2. Two or three tubes with one label wrapping all tubes.
3. Unlabeled specimens with loose labels in specimen bag.
4. A container with 2 different patient labels.
5. Tube with the wrong patient test label, but correct patient ID.
6. Specimen transportation requirement not met (i.e., not transported on ice or not protected from light when required).
7. Serum or plasma not separated from cells in timely manner (see EPIC Procedure Catalog for specific requirements).
8. Specimen syringes with needles attached.
9. Quantity of specimen is insufficient (QNS).
10. Unacceptable specimens due to contamination, (line draws, collections above IV Lines, stool in urine, etc.), hemolysis, lipemia, clotting, or other unacceptable issues per test specific guideline.
11. Wrong collection tube.
12. Improperly labeled or mismatched blood culture sets.



## Specimen Transport

All diagnostic specimens should be submitted in properly labeled closed containers that are inside a sealed biohazard bag.

Care should be given to transport all specimens in a manner to prevent contamination of workers, other patients and the environment.

The hospital pneumatic transport system may be used to transport most specimens within the facility. Follow the current guidelines for the system. Ensure that all specimens are transported in a sealed biohazard bag. If any specimen spills during pneumatic transport, refer to current facility policy and procedure for cleanup and notification of appropriate departments.

DO NOT submit multiple glass tubes in a single bag if sending through the tube station. One tube per bag would prevent the risk of a sharps cut or exposure if a glass tube breaks during transit.

Specimens transported by couriers should be triple packaged. The original container must be leak-tight and inserted into a secondary bag with preferably absorbing material to absorb accidental spills. The outer packaging (cooler) must be designated and labeled as biohazardous and secured during transport to prevent movement. All operators of motor vehicles that transport specimens are trained as to the proper transportation rules for the type of hazardous materials they transport.

**Safety Note: Needles MUST be removed from all specimen collection devices before transporting. Specimens received with intact needles will be rejected.**

## Blood Collection Tubes or Vials

**Blood Specimen Overview:** Blood is the most frequent body fluid used for analytical testing. The most common samples of laboratory testing are whole blood, serum, or plasma. Refer to each test specific specimen requirements in the online test catalog.

Whole blood specimens are usually collected in lavender (EDTA) and dark green (sodium heparin) tubes with an anticoagulant and are not centrifuged or frozen. The whole blood lavender tube is used for Hematology tests such as complete blood counts (CBCs) and hemoglobin electrophoresis.

Serum is the clear yellowish fluid that is obtained when the blood is allowed to clot and the specimen is separated into its solid and liquid components. Serum obtained from specimens collected in the Yellow/Gold or Red tubes is the specimen of choice for many Chemistry and Microbiology tests.

Plasma is the clear yellowish fluid that is obtained when blood is collected in an anticoagulant tube (e.g., lavender (EDTA) top, light green (lithium heparin) top, or light blue (sodium citrate) top tubes) and the specimen is separated into its solid and liquid components. Plasma contains fibrinogen and other clotting factors that are absent from serum. Plasma obtained from specimens collected in light Green, lavender, and light blue top tubes is the specimen of choice for many chemistry and coagulation tests.

The preferred collection method is venipuncture using a closed vacuum tube collection method or syringe method. Blood should be obtained from a freely flowing venipuncture performed according to current nursing or laboratory venipuncture procedure. Refer to the Specimen Collection Guide (page 31-32) for general guidelines.

1. Tubes should be collected in the recommended order based on the test(s) being collected.
  - a. **BLOOD CULTURE** bottles are drawn first (Aerobic (gray/blue bottle cap), Anaerobic (purple bottle cap), Fungal (if ordered) (red and white bottle cap), or Pediatric blood culture bottle (pink bottle cap).
  - b. **CLEAR “Non-Additive” Tube**. Note: The RED plastic serum tubes contain a clot activator that may cause interference with coagulation testing. Thus, use the CLEAR Hemogard tube for discard.
  - c. **LIGHT BLUE Tubes** (Sodium Citrate Coagulation tubes). Note: In the event that only light blue top tubes are to be collected with a butterfly collection system, a “CLEAR TOP” vacutainer tube must be used first to displace the air in the butterfly set tubing. This is to avoid a short draw fill effect with the blue tube. **It is critical that the blue tube is filled to the proper indicated fill line.**
  - d. **RED, GOLD, or RED/BLACK Speckled Serum Tubes** with or without a clot activator or with or without gel.
  - e. **GREEN Tube** (Lithium or Sodium Heparin) with or without a plasma gel separator.
  - f. **LAVENDER/PURPLE, PINK or PEARL Top EDTA Tubes**
  - g. **GRAY Top Glycolytic Inhibitor Tubes** (Sodium Fluoride plus Potassium Oxalate)
  - h. Other type tubes.
2. All tubes should be inverted gently several times (5-10 times) in order to mix the blood specimen with any anticoagulant.
3. Adequate volume should be collected for the number and types of tests requested. Minimum blood volumes are determined for each test. If insufficient volume is collected, call the laboratory before sending to verbally convey the priority of testing and volume requirements.
4. Label specimens per protocol.
5. Send specimen(s) immediately to the laboratory. If a delay in transporting to the laboratory will occur, the specimen may require additional processing. Review test specific specimen requirements to identify if the specimen requires immediate centrifugation, separation of serum/plasma from the red blood cells, refrigeration, freezing or other special processing.

## **Blood Collection Safety Notes:**

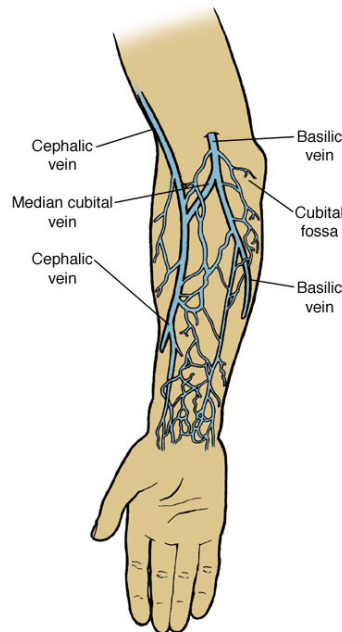
1. Plastic vacutainers and syringes are preferred unless no other options are available.
2. Carefully consider the need for laboratory tests, avoiding unnecessary repetition of tests and the use of standing orders in efforts to minimize unnecessarily large blood draw volumes or tube wastage. Blood losses from phlebotomy, particularly in pediatric patients and those with repeated venipunctures, may cause iatrogenic anemia and increase the need for transfusions.
3. Adverse consequences of excess venipunctures includes: Complications during collection for both the patient and health care worker; Patient risks associated with transfusions; and increased amounts of hazardous/biological waste.
4. Collectors of specimens are responsible to assure that collection supplies such as blood collection tubes and collection devices (e.g. heel lancets, culture swabs, and transport media) are stored according to the manufacturer's requirements and used before the manufacturer expiration date. For newborn screening collection cards, if the expiration date is not printed on the individual cards, another mechanism, such as serial numbering, may be used for tracking.
5. The basic supply list includes:
  - a. Blood collection sterile disposable, single-use devices.
    - i. Needles gauge 21-23 for general patient use.
    - ii. Needles gauge 23-25 for pediatric patient use.
    - iii. Safety-Lok Blood Collection Sets (Butterfly).
    - iv. Capillary Puncture Devices (e.g., Tenderfoot Pediatric Lancets)
  - b. Disposable vacutainer needle adapters or syringe and blood transfer device.
  - c. Evacuated tubes or filter paper appropriate for test ordered (vacutainers, microtainers, filter paper, etc.)
  - d. Disposable single-use tourniquet (latex-free).
  - e. Venipuncture site cleansing solution:
    - i. Sterile alcohol preps are acceptable for most venipuncture procedures and capillary punctures.
    - ii. Non-alcoholic cleanser should be used when collecting ethanol (alcohol) test specimens.
    - iii. Chloraprep Applicator (2% chlorhexidine gluconate (CHG) in 70% isopropyl alcohol) is required when collecting blood cultures.
  - f. Disposable gloves.
  - g. Gauze 2x2 squares.
  - h. Dressing (paper tape, coverlet, corban wraps, etc.)
  - i. Waste and sharps containers.
  - j. Patient identification labels (Rover device labels.)
  - k. Biohazard zip lock specimen transport bag.



# Blood Collection Procedures

## Percutaneous Venipuncture Procedure:

1. Identify self to patient.
2. Properly identify the patient using two unique identifiers.
3. Verify test(s) ordered and if there were any special preparation requirements (fasting, diet, timed collections, etc.) If yes, verify with the patient or care giver that the special preparation requirements have been met.  
**NOTE:** Phlebotomist should still proceed regardless of fasting, diet, etc.
4. Assemble the necessary collection supplies and vacutainer tubes.
5. Position the patient. Most patients should be seated or laying in a position so the arm is extended and the wrist is lower than the elbow. This should allow comfortable access to the antecubital fossa.
6. Wash hands thoroughly and apply clean gloves.  
**NOTE:** All patient blood specimens are to be treated with "Standard Precautions" as it is frequently impossible to know which specimens might be infectious. Gloves are to be worn when performing a venipuncture.
7. Apply tourniquet to extremity 2 inches proximal to desired site.
8. Select venipuncture site (usually arm veins: Cephalic, Median and Basilic. Refer to figure below). A vein with good circulation will be palpable and should spring back when palpated. Larger veins are generally palpable and not visible. Surface veins may be visible but not palpable. Choose a vein with a large diameter as not to collapse the vein while drawing blood.



9. The Median Cubital Vein is usually the vein of choice. It is the largest and fullest vein and is best anchored by the surrounding tissues of the arm.
10. The Cephalic Vein is the next largest vein and usually the second-best choice.
11. The Basilic Vein is the smaller vein and is not anchored well by the surrounding tissues. If this vein is used, the phlebotomist must ensure that they anchor the vein well by holding the skin taut just below the needle insertion point. This vein is close to the brachial artery so there is a higher risk of hitting an artery. Exercise caution.
  - a. Avoid extremities with an A-V shunt or status/post mastectomy.
  - b. Avoid areas with extensive scarring.
  - c. Avoid sites with hematomas.
  - d. Avoid using any site above an IV line.
12. Prep the overlying skin with alcohol using a circular motion starting from the center and moving outward. Chloraprep may be used if the patient is allergic to alcohol. If the venipuncture site is touched, the site must be cleansed again.
13. Insert the blood collection tube into the holder and onto the needle up to the recessed guideline on the Vacutainer adapter, or prepare the syringe.

14. Unsheathe the needle and position the needle with the bevel up and the shaft parallel to the path of the vein.
15. Hold the patient's arm using your thumb to draw the skin taught to anchor the vein. Verbally state to the patient that the venipuncture is starting and insert the needle at a 15-30° angle and a ¼ to ½ inches below the intended entry into the vein.
16. While securely grasping the vacutainer holder with one hand, use the other hand to push the Vacutainer tube onto the needle inside the vacutainer. The stopper of the tube must be adequately punctured. If the venipuncture is successful, blood will start to fill the tube.
17. Remove the vacutainer tubes as they fill. The shut-off valve recovers the point (site where the needle enters the test tube cap, closes immediately), stopping blood flow until the next tube is inserted.
18. Tubes containing additives should be mixed immediately upon being drawn by inverting the tube 5-10 times. Avoid vigorous mixing because it may cause hemolysis and erroneous patient results.
19. To obtain additional specimens, insert the next tube into the holder and repeat steps 7-9. When all tubes are filled, remove last tube from the holder.
20. After all of the tubes are collected, fold a gauze pad over the needle and remove the needle in one quick motion and activate the safety device. Discard the needle and collection device into a sharp's container.
21. Apply pressure to the phlebotomy site with a gauze pad. Check the patient's arm to ensure that any bleeding has stopped. Apply a gauze pad secured lightly with tape to the puncture site. Instruct the patient to leave the bandage in place for at least 15 minutes.
22. Label all blood tubes in the patient's presence. Record the time of draw and the collector's initials or identification code on each label. Place the labeled specimens into a biohazard bag.
23. Discard gloves and wash your hands.
24. Transport specimens to the laboratory for testing.

#### **Venipuncture Procedure with Needle and Syringe:**

A syringe and needle set may be used in the venipuncture process instead of the vacutainer holder system outlined in venipuncture procedure.

1. Perform venipuncture. Pull back on plunger or syringe slowly until sufficient volume of sample is achieved.
2. Remove the needle from the patient's arm and immediately activate the safety feature according to the manufacturer's instructions and discard into a sharp's container.
3. Attach the syringe to a blood transfer device (female luer adapter).
4. Insert the Vacutainer tubes into the transfer device. Fill to the desired level. Remove the Vacutainer tube and add the next tube. Continue until all required Vacutainer tubes are filled.

#### **Venipuncture Safety Notes:**

1. Venipunctures should be performed by persons who have been trained and passed competency testing in phlebotomy.
2. Phlebotomists should only attempt a venipuncture two times. If still unsuccessful, call another phlebotomist to perform the procedure.
3. Patient complications may occur during or immediately after the procedure. Refer to this list on the more common complications and the appropriate response action(s) and care recommended to address or minimize the complication.
  - a. **Bruises (Ecchymosis)** – Most commonly caused by a leakage of a small amount of blood around the puncture site. Prevent by keeping the patient arm straight and applying pressure to venipuncture site for 3-5 minutes to allow a platelet plug to form after removing the needle.
  - b. **Fainting (Syncope)** – The patient becomes frightened and the body goes through physical stages of increased heart rate, dilated blood vessels, and blood pools in the tissues followed by a slow heart rate. The slower heart rate deprives the brain of blood resulting in fainting. If this occurs, withdraw the needle, lower the patient's head, and apply a wet towel to patient's forehead and neck. If the patient does not rapidly recover and is an Outpatient, dial "69". For Inpatients, call the nurse immediately.
  - c. **Hematoma** – Caused by a leakage of a large amount of fluid around the puncture site which can cause the area to swell. This may be caused by the needle going through the vein, the bevel of the needle only partially being present in the vein, or failure to apply adequate pressure at the end of procedure. If a hematoma occurs, withdraw the needle and apply direct pressure on the puncture site.

- d. **Seizures/Convulsions** – Caused by the patient’s underlying condition or a reaction to pain or fright caused by the needle. Remove the needle and protect the patient. Keep the patient from hitting his or her head or hurting himself or herself. Activate facility specific medical emergency plan if needed. Dial “69” on the landline for Outpatients and call the nurse for Inpatients.
- e. **Vomiting/Choking** – The biggest danger is that the patient may aspirate some vomit. If the patient is sitting, have them lean forward and use an emesis basin or trash can. If the patient is lying down, turn their head to the side and provide an emesis basin.
- f. **Infection at Venipuncture Site** – This is rare but can be caused by not using aseptic technique when performing a venipuncture. Instruct the patient to keep a bandage on for at least 15 minutes post puncture.
- g. **Pain** – There is always a little pain associated with a venipuncture. Inform the patient that there will be some discomfort and communicate to them when the venipuncture will occur to avoid startled reactions. Allowing the alcohol to dry before puncture will minimize pain.
- h. **Reflux of Anticoagulant** – If the last tube is not released from the multi-sample needle sleeve before removing the needle from the arm, it is possible for blood from the collection tube to back flow (reflux) into the patient’s vein. Some patients have been known to have reactions to additives in tubes, especially EDTA. If this happens, make sure to keep the patient’s arm in a downward position. If patient is lying down, raise his head or extend his arm over the edge of the bed.
- i. **Nerve Damage** – Excessive or blind probing for a vein can lead to permanent damage of a main nerve. If unable to find vein, begin procedure from the beginning with a new needle. Ask for assistance if still unable to find a vein.
- j. **Inadvertent Arterial Puncture** – If an artery is punctured, the blood will be bright red in color as compared to the dark red color of venous blood. If this occurs, apply direct pressure to the puncture site for a minimum of 5 minutes.
- k. **Petechiae** – Blood which escapes into the epithelium will cause small, non-raised red spots on the patient’s skin. This may usually indicate a coagulation problem that may be due to defective platelets, defective von Willebrand factor, or defective capillary walls. Petechiae are common in patients with leukemia or patients undergoing chemotherapy. The phlebotomist should be alert to the possibility of prolonged bleeding in the patient.
- l. **Edema** – Caused by an abnormal accumulation of fluid in the intercellular spaces of the body resulting in swelling. Edema is most commonly caused by IV infiltrations (the release of IV fluid or blood into the interstitium). Do not use the edematous arm for phlebotomy to prevent specimen contamination from tissue or IV fluid.
- m. **Obesity** – Veins may be deep and hard to palpate. Consider the hand or forearm as an alternative venipuncture site. Ask the patient where the best site to obtain blood is located (many times the patient knows from previous experiences).
- n. **Intravenous Therapy** – Venipunctures should never be performed above an IV site. Perform procedure on the other arm. If both arms are unavailable, consult with the nurse in charge of the patient for assistance. One alternative is to have the nurse turn the IV fluid off for 2 to 3 minutes prior to antecubital fossa phlebotomy by the phlebotomist, or if the nurse can draw through the indwelling IV line (nurses must be aware that IV fluid must be cleared from the indwelling line before a patient sample is obtained; clear the line by drawing into a discard/waste tube or syringe), or to perform the venipuncture below the IV site. In extreme circumstances, obtain permission from the clinical service (nurse contacts the doctor) for a venipuncture of the ankle or the foot.
- o. **Veins Damaged by Burns, Scars or Occluded** – These veins are very sensitive and tend to have limited blood flow or may collapse and should not be used.
- p. **Post Mastectomy** – Surgeons state that it is permissible to draw from the arm on the mastectomy side after 6 months to 1 year without danger of lymphostasis (a build-up of lymphatic fluid in the lymph glands). If the patient insists that the physician has told them not to have blood drawn on that side, honor the patient’s request.
- q. **Allergies to Antiseptics and/or Adhesives** – Some patients may be allergic to alcohol, iodine, band aids or tape. Use an approved antimicrobial soap to cleanse skin. Paper tape or Coban wrap (Outpatient only; not to be used on Inpatients) may be used to bandage the site.

- r. **Collapsed Veins** – Using a vacuum tube on a small delicate vein or pulling back on the plunger of a syringe too quickly may cause a vein to collapse. Consider the use of a smaller vacuum tube, a smaller syringe, a butterfly, or consider use of a smaller volume draw tube to enable a successful venipuncture.
- s. **Thrombosis** – Blood clots at the site of the puncture can reside in blood vessels and can partially block a vein or artery. An embolus results when a thrombus fragment breaks off and moves through the body. Patients may request to have blood drawn from a certain arm if they are prone to develop clots in a certain area.

## Arterial Punctures

Some tests require arterial blood specimens. Arterial punctures should only be performed by qualified experienced personnel. Specimens collected in this fashion are collected by non-laboratory personnel such as Nursing Staff, Anesthesiologists, Physicians, and Respiratory Therapists. Generally, arterial specimens are performed on critically ill patients, patients during surgery, and patients having special invasive procedures.

Refer to the Shands Core Policy on Arterial Punctures for guidelines:

<https://bridge.ufhealth.org/policies/arterial-blood-puncture-adults-pediatrics/>

## Line Collections

Specimens collected in this fashion are collected by non-laboratory personnel such as Nursing Staff, Anesthesiologists, Physicians, and Respiratory Therapists.

**NOTE:** Collection of blood for coagulation testing through intravenous lines that have been previously flushed with heparin should be avoided. If the blood must be drawn through an indwelling catheter, possible heparin contamination and specimen dilution should be considered. When obtaining specimens from indwelling lines that may contain heparin, the line should be flushed with 5 mL of saline and the first 5 mL of blood or 6-times the line volume (dead space volume of the catheter) should be drawn off and discarded before the tube is filled. For those samples collected from a normal saline lock (capped off venous port) twice the dead space volume of the catheter and extension set should be discarded.

Refer to the Shands Core Policy on the Handling of Peripheral or Central Line IV's for guidelines:

<https://bridge.ufhealth.org/policies/handling-of-peripheral-or-central-line-ivs-by-trained-personnel/>

## Capillary Punctures

Capillary punctures may be used for obtaining specimens from infants or adults where venipuncture is difficult. Specimens from infants under the age of 6 months are usually collected by heel stick. Patients over the age of 6 months should have capillary puncture procedures done by fingerstick. Capillary specimens may be collected in microtainers which are color coded similar to the vacutainer tubes and sent to the laboratory for testing. The recommended order of collection for microtainer specimens:

1. Capillary blood gases
2. Slides/smears
3. Lavender/purple (EDTA)
4. Green (Lithium or Sodium Heparin)
5. Red or Gold/SST (Serum Microtainers)

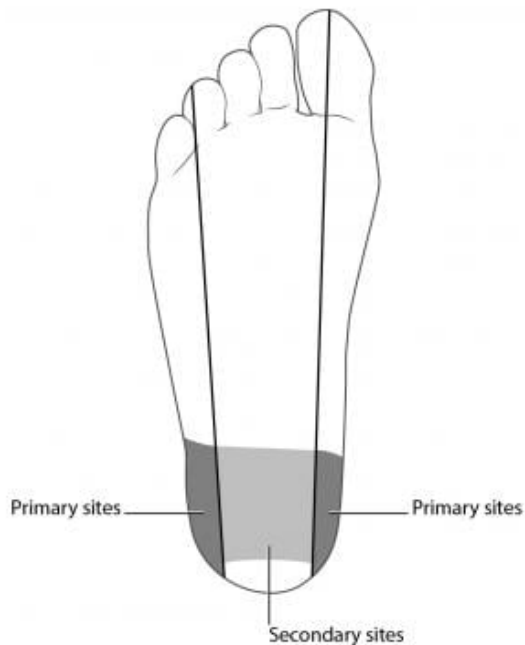
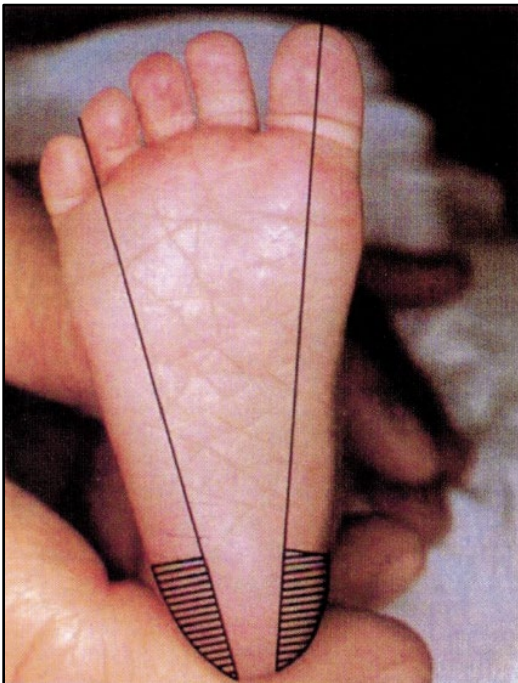


**NOTE:** Capillary punctures are not suitable for blood culture testing and coagulation tests. Capillary specimens may be collected on filter paper and sent to the lab for testing (newborn screening or lead screens). Capillary specimens may be used immediately for point-of-care testing.

## Capillary Puncture – Heel Stick

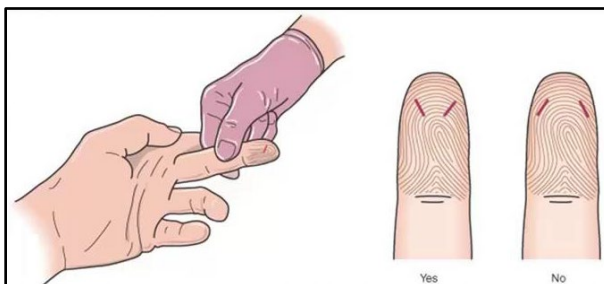
1. Position the infant with the head slightly elevated.
2. Warm the heel from which blood is to be obtained. A commercial heel warmer may be used.
3. Cleanse the heel with an alcohol prep, then dry with a sterile 2x2 gauze as alcohol can influence test results and cause pain if not removed.
4. Using a sterile lancet, puncture the most medial or lateral portion of the plantar surface of the heel, medial to a line drawn posteriorly from the mid great toe to the heel.
5. Puncture no deeper than 2.4mm (approximately 0.1 inches).
6. Punctures to the posterior curvature of the heel can cause damage to the bones.
7. Previous puncture sites should be avoided. Avoid bruising the infant's heel when obtaining blood.
8. Wipe away the first drop of blood with a sterile 2x2 gauze.
9. Allow another large drop of blood to form. Lightly touch the microtainer capillary collection device (or filter paper) to the LARGE drop of blood.
10. Collect drops of blood into the collection device by gently massaging the heel. Avoid excessive pressure that may squeeze tissue fluid into the drop of blood. Fill the microtainer tube(s) as needed.
11. Cap, rotate, and invert the microtainer to mix the blood collected.
12. When finished, clean the site and apply pressure with clean gauze to stop the bleeding. Apply an adhesive bandage.
13. Label all specimens per accepted guidelines.
14. Place labeled specimens in a biohazard bag and deliver to the laboratory as soon as possible.

**NOTE:** The darkened areas (see picture below) illustrate the acceptable areas for the skin puncture. The side of the little toe is the primary area of choice.



## Capillary Puncture – Finger Stick

1. Position the patient so that the hand is easily accessible.
2. Cleanse the fingertip of the 3rd (middle) or 4th (ring) finger with an alcohol prep pad.
3. Allow the finger to dry or wipe dry with a sterile 2x2 gauze.
4. Using a sterile lancet, puncture the fingertip in the fleshy part of the finger, slightly to the side of the center and across (perpendicular to) the grooves of the fingertip. This enables the blood to form as a drop on the fingertip.



5. If the puncture is parallel to the lines of the fingerprint, the blood will not form as a drop but will run down the finger making collection difficult.
6. Wipe away the first drop of blood with a sterile 2x2 gauze.
7. Allow another large drop of blood to form. Lightly touch the microtainer capillary collection device (or filter paper) to the LARGE drop of blood. Collect drops of blood into the collection device by gently massaging the finger.
8. Avoid excessive pressure that may squeeze tissue fluid into the drop of blood. Fill the microtainer tube(s) as needed.
9. Cap, rotate, and invert the microtainer to mix the blood collected.
10. When finished, clean the site and apply pressure with a clean gauze to stop the bleeding. Apply an adhesive bandage.
11. Label all specimens per accepted guidelines.
12. Place labeled specimens in zip lock bag and deliver to the laboratory as soon as possible.

### Newborn Screening Specimen Collection:

1. Allow the blood to soak through and completely fill the pre-printed circle on the filter paper.
2. Filter paper should touch only the blood and not the heel or finger.
3. Apply only ONE drop of blood per circle. Do not add blood to a circle already filled or partially filled with blood.
4. Apply blood to the printed side of the filter paper.
5. Make certain that the blood completely saturates all five (5) circles and is visible from both sides.
6. If the blood flow is diminished, repeat the capillary PUNCTURE to complete the collection.
7. Allow filter paper to air dry for two (2) hours at room temperature. Avoid placing the sample on hot surfaces such as Bili lights or monitors.
8. Forward the completed and dry collections to the laboratory as soon as possible.

For more information, visit the Florida Newborn Screening Program at <https://floridanewbornscreening.com/medical-professionals/how-to-collect-mail/>.

1) Do not touch sample area

PLEASE FILL IN THIS CARD USING CAPITAL LETTERS ONLY. ALL FIELDS MUST BE FILLED OUT COMPLETELY TO AVOID DELAY. ILLEGIBLE HANDWRITING AND INCOMPLETE INFORMATION WILL RESULT IN DELAYS.

**INFANT'S INFORMATION**

DARKEN ALL CIRCLES THAT APPLY: ☐ REFUSED ☐ INFORMATION ONLY ☐ STATUS: ☐ DECEASED ☐ ADOPTION ☐ NICU ☐ MECONIUM ILLUS confirmed/suspected

Infant's Last Name: \_\_\_\_\_ Infant's First Name: \_\_\_\_\_ Hospital of Birth: \_\_\_\_\_ Infant's Birth Tracking Number: \_\_\_\_\_

State of Birth: \_\_\_\_\_ Birth Wt. (gms): \_\_\_\_\_ Gender: \_\_\_\_\_ Birth Order: \_\_\_\_\_ Date of Collection: \_\_\_\_\_ Time (approx): \_\_\_\_\_ Collection Wt. (gms): \_\_\_\_\_ Collected By (s): \_\_\_\_\_ Transfusion Date: \_\_\_\_\_ Time (approx): \_\_\_\_\_

**MOTHER'S/FATHER'S CONTACT**

Mother's Last Name: \_\_\_\_\_ Mother's First Name: \_\_\_\_\_ Mother's Date of Birth: \_\_\_\_\_ Mother's or Contact's Telephone Number: \_\_\_\_\_

Mother's Address (Include Apartment Number): \_\_\_\_\_ City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_ Home Telephone Number: \_\_\_\_\_

**INSURANCE INFORMATION**

Insured's Name (Last, First & Middle Initial): \_\_\_\_\_ Insurance/Medicaid ID#: \_\_\_\_\_ Relationship to Insured: ☐ SELF ☐ CHILD ☐ PRIVATE/MAA ☐ SELF-PAID ☐ MEDICAID ☐ FINANCING

Insured's Date of Birth: \_\_\_\_\_ Name of Insurance Company: \_\_\_\_\_

**PRIMARY CARE / FOLLOW UP PHYSICIAN INFORMATION**

Physician's Last Name: \_\_\_\_\_ First Name: \_\_\_\_\_ Physician's Telephone Number: \_\_\_\_\_

**ORDERING PHYSICIAN INFORMATION**

Physician's Last Name: \_\_\_\_\_ First Name: \_\_\_\_\_ NPI Number: \_\_\_\_\_

**COLLECTION FACILITY INFORMATION**

Collection Facility Name: \_\_\_\_\_ Laboratory ID#: \_\_\_\_\_

**MAIL TO (SUBMITTER INFORMATION)**

Facility Name (Hospital or Clinic): \_\_\_\_\_ Address: \_\_\_\_\_ City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

2) Do not use if damaged or after expiry date.

MAIL SPECIMENS TO: STATE OF FLORIDA-BUREAU OF PUBLIC HEALTH LABORATORIES 1217 N PEARL ST. JACKSONVILLE, FL 32202 (904) 791-1940 EXP 02-2022

Newborn Screening Specimen Collection Card, DH 677, 01-19, Replaces ALL Previous Editions. Conforms to CLSI Standards, Rule 64C-7/2002, F.A.C.

**Expired Cards Will Be Rejected**

**STATE LAB USE ONLY**

**STATE LAB USE ONLY**

**Darken ALL circles that apply at time of collection.**

**FEED STATUS:** ☐ BREAST ☐ BOTTLE ☐ TERN / HYPERAL

**RACE:** ☐ WHITE ☐ BLACK ☐ HISPANIC ☐ ASIAN ☐ AMERICAN INDIAN ☐ OTHER

**PULSE OXIMETRY:** ☐ YES ☐ NO

**REASON NOT SCREENED:** ☐ PRESCREENED ☐ REFUSED ☐ FACILITY TRANSFER

**HEARING SCREENING:** ☐ LEFT EAR ☐ RIGHT EAR ☐ BOTH EARS

**HEARING RISK STATUS:** ☐ EARLY EXP. ☐ BIRTH DEFECT ☐ EXCHANGE TRANSFUSION FOR HYPERBILIRUBINEMIA

**FINAL RESULT:** ☐ PASS ☐ FAIL ☐ ECHO ☐ PASS ☐ FAIL ☐ OAE ☐ PASS ☐ FAIL ☐ ABR ☐ PASS ☐ FAIL ☐ ABR

**HEARING NOT SCREENED BEFORE DISCHARGE DUE TO:** ☐ BABY EXPIRED ☐ MISSED ☐ NOT YET SCREENED (NICU) ☐ PARENTS/GUARDIAN REFUSED



## Blood Culture Collection

(See additional pictures and instructions below.)

**Blood Culture Overview:** The detection of microorganisms in a patient's blood has diagnostic and prognostic importance. When bacteria multiply at a rate that exceeds the capacity of the reticuloendothelial system to remove them, bacteremia results. Bacteria enter the blood from extravascular sites via lymphatic vessels. Blood cultures are essential in the diagnosis and treatment of the etiologic agent of sepsis or other bacterial processes. Bacterial sepsis constitutes one of the most serious infectious diseases and therefore, the expeditious detection and identification of blood-borne bacterial pathogens is one of the most important functions of the diagnostic microbiology laboratory. Guidelines to achieve this are described in this procedure.

1. Blood cultures can be obtained by using the venipuncture method. Select the venipuncture site.
2. Optimal skin preparation includes cleansing with ChloroPrep. The venipuncture site should not be palpated after disinfection unless a sterile glove is used. If you must relocate the vein, apply ChloroPrep to one's fingertip and let it dry before touching the puncture site.
3. Remove the cap from culture bottles and clean with ChloroPrep. Allow this to dry for 3 minutes or longer.
4. Perform venipuncture using a sterile syringe and needle. Pull back on the plunger or syringe slowly until sufficient volume of the sample is achieved. To achieve best results, collect 20 mL of blood for an adult (Minimum 6 mL) and 6 mL of blood for a pediatric patient (minimum 4 mL). Sterile butterfly sets may also be used with a blood transfer device. Fill the blood culture bottles directly.
5. Remove the needle from patient's arm and immediately activate the safety feature according to manufacturer's instructions and discard the needle into a sharp's container.
6. Attach the syringe to a sterile blood transfer device (female luer adapter).
7. Add 8 to 10 mL of blood into the blue/gray aerobic culture bottle. (Minimum 3 mL)
8. Add 8 to 10 mL of blood into the purple anaerobic lytic bottle. (Minimum 3 mL)
  - a. Use a pediatric bottle if necessary to replace the blue/gray aerobic bottle. Pediatric bottles are acceptable with 1-3 mL of blood per bottle. Pediatric bottles can be used for adults that are difficult sticks.
9. Label each blood culture bottle per policy.
  - a. Label should include the complete patient name, medical record number, and date and time of collection, location of venipuncture (i.e., L arm, R hand, etc.) and initials of the person collecting the specimen.
  - b. Labels should not cover the bottom of the bottle.
  - c. Labels should not be placed on or partially up the neck of the bottle.
  - d. Labels should not be crooked, at an angle, or perpendicular (wrapped around the curve of the bottle). The label should run parallel to the bottle barcode without covering the bottle barcode. There is an icon of a patient in a bed where the label should be placed.
  - e. Labels should run the length of the bottle (from top to bottom).
  - f. The patient name should be at the top, and the label should not cover or touch the bar code on the bottle.
  - g. Proper sets are one of the following:
    - i. Pediatric bottle only.
    - ii. Pediatric and Anaerobic bottle.
    - iii. Aerobic and Anaerobic bottle.
    - iv. **NOTE:** If sets are improperly matched or labeled, the lab will request a recollect.
10. Transport blood cultures to Microbiology within an hour of collection time. Blood culture bottles should not be refrigerated.

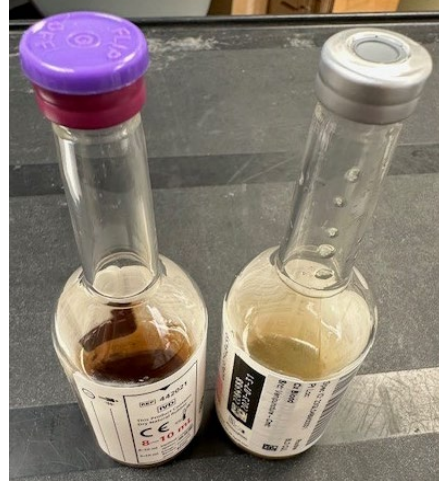
**Refer to the Microbiology section or EPIC Procedure Catalog for more information.**

**A Blood Culture set consists of the following:**

**Anaerobic (purple) and Aerobic (blue)**



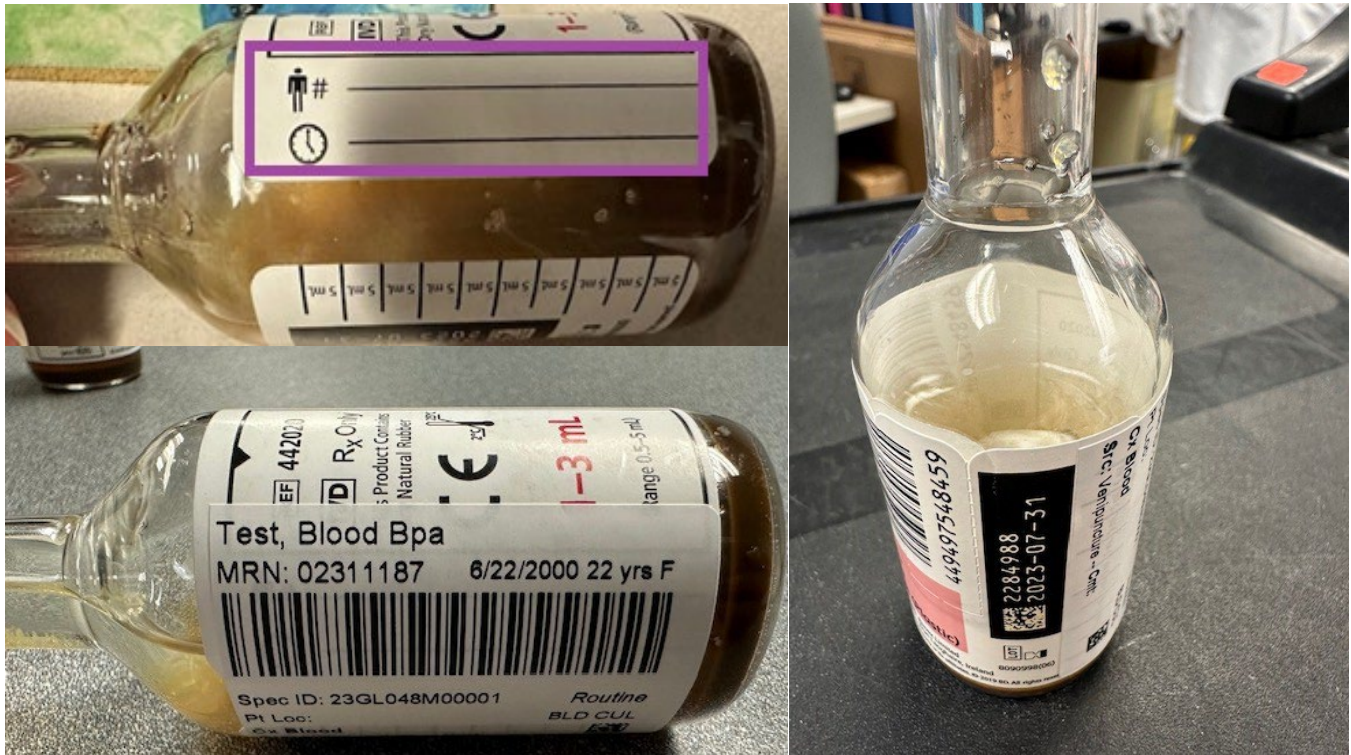
**Anaerobic (purple) and Pediatrics (silver)**



**Pediatrics (silver)**

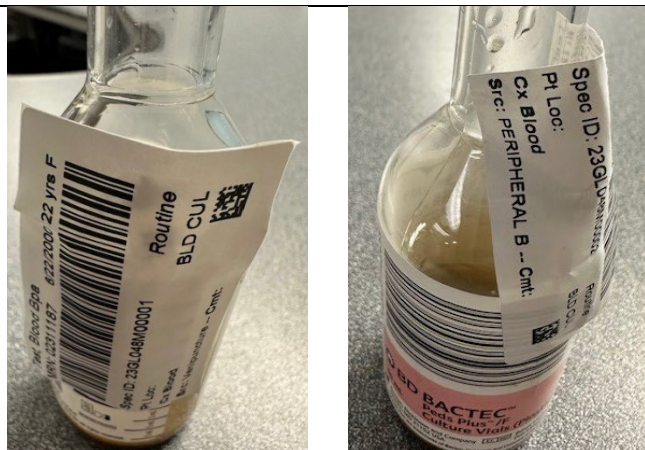


To properly label blood culture bottles, locate the patient and clock icon (purple outline below). Do NOT cover the bottle barcode or the expiration date information on the bottle. Place the accession label centered on the side of the bottle, as demonstrated below:



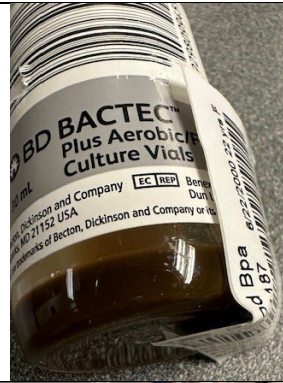
Please do NOT label in the following manner:

Up the neck of the bottle, as the barcode reader cannot scan the accession label due to the curve in barcode.

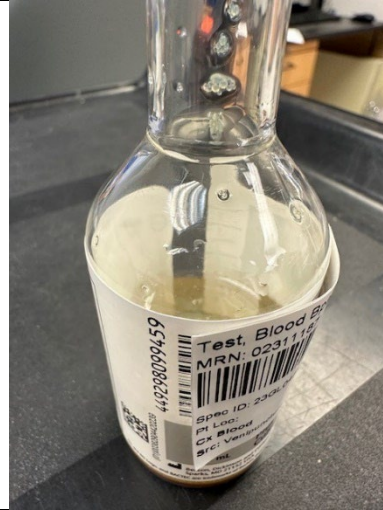




On the bottom of the bottle, as the instrument reads the bottom of the bottle. Obstructions mean the instrument cannot read the bottle, therefore, the bottle may be rejected by lab.



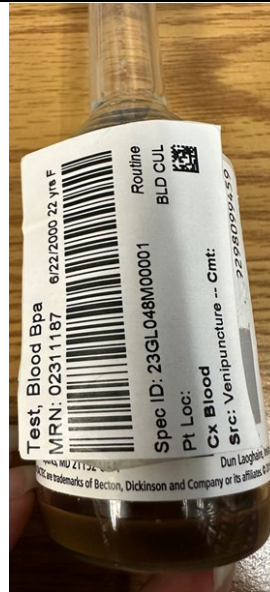
Wrapped around sideways, as the barcode reader cannot scan the accession label due to the curve in the barcode.



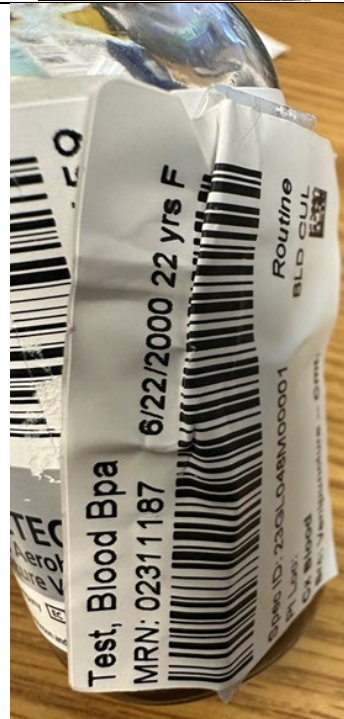
Wrapped at an angle, as the barcode reader cannot scan the accession label due to the curve in the barcode.



**Covering the bottle barcode, as the instrument needs to be able to scan the bottle barcode.**



**Wrinkle/crumple the accession barcode, as the increased label height can cause the bottle to stick to the inside of the instrument or become stuck in the instrument. Also, the barcode reader cannot read the barcode.**



## Urine Collection Procedures

**Random Urine Collection:** Urinalysis, urine chemistry tests, drug screens, and culture and sensitivities are some tests that may be ordered. Refer to the EPIC Procedure Catalog for test specific specimen requirements.

### Clean Catch Method:

1. Patient is provided with a sterile collection cup and two towelettes.
2. Upon entering the bathroom, the patient should wash hands with soap and water.
3. Remove the lid from cup; taking care NOT to touch the inside of the lid or cup, and place lid flat side down onto the counter.
4. **FEMALES:** Wash the area around the labia and around the vagina with the towelette. Wash genital area from front to back. Separate the genital folds (also known as lips or labia) with your hand. Gently wipe inside the folds with a second towelette.
5. **MALES:** Wash the area around the tip of the penis including the glands. If uncircumcised, retract the foreskin, if present, and clean the head of the penis (the glans) thoroughly with a packaged towelette.
6. For both males and females, **DO NOT USE SOAP.**
7. The patient should begin to urinate into the toilet. After the first part of the urine has gone in the toilet, place the cup under the stream. Catch 50 mL of urine. Remove the cup from the stream and finish urinating in the toilet.
8. Put the lid securely on the cup and wash hands.
9. Give sample to the health care provider.

### Pediatric Patients or Infants:

1. Thoroughly wash the area around the urethra using towelettes.  
**FEMALES:** Clean from the front to the back on a female infant.  
**MALES:** Clean from the tip of the penis down on a male infant.
2. A Special Urine Collection bag will be provided. It is a plastic bag with a sticky strip on one end. It is made to fit over the infant's genital area. Open this bag and place it on the infant.  
**FEMALES:** Place the bag over the labia.  
**MALES:** Place the entire penis in the bag and attach the adhesive to the skin.  
**NOTE:** For small infants, the entire perineal area would be placed in the bag. However, for larger pediatric patients who are developmentally delayed and not potty trained, the bag can just be placed around the penis.
3. Put a diaper securely over the bag. For active infants, this procedure may take a couple of attempts; lively infants can displace the bag.
4. Check your baby often and remove the bag after the infant has urinated into it.
5. Drain the urine into a sterile container and give it to the health care provider. Do not touch the inside of the cup or lid.

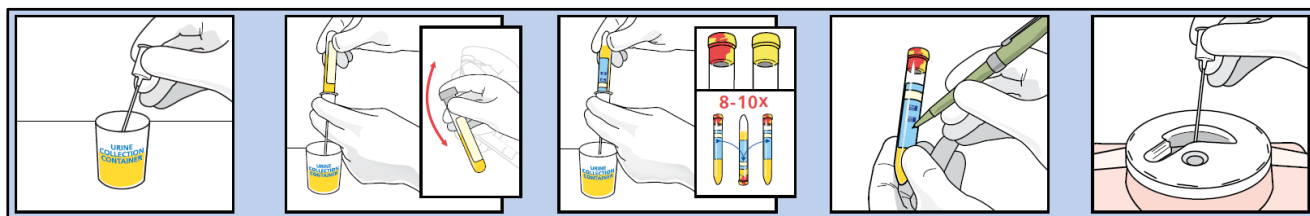
### Urine Specimen Collection and Transport:

Urine needs to be collected and transported in the appropriate urine preservative tubes. Collect in sterile urine preservative tubes via a transfer straw as illustrated in the picture below.

**Instructions (See pictures below):** To suck urine into the straw, compress the bulb and place the tip into the urine. Release the bulb to draw urine into the straw. Expel the urine into the tube by compressing the bulb.

### Collect the appropriate urine tubes:

1. Microbiology Culture and Susceptibility (C&S): **Gray top tube**. Shake vigorously. Store at room temperature.
2. Urinalysis (UA) Tube: **Red/Yellow top (speckled top) tube**. Mix by inverting 8-10 times. Store at room temperature.
3. For all other urine tests including Chemistry and Cytology, collect in a **Clear/Red top tube** or **Sterile Container** for AFB or Fungal Cultures. Store in refrigerator.





**Urine Collection from a Foley Catheter:**

For collection policies, please refer to the hospital core policy <https://bridge.ufhealth.org/policies/prevention-of-catheter-associated-urinary-tract-infections-ca-uti-policy-and-procedure/> and the Elsevier Clinical Skills Plus: Urinary Catheter: Straight, Indwelling (Foley), Coudé Catheter Insertion and Specimen Collection (Male) and Urinary Catheter: Straight and Indwelling Catheter Insertion (Female)

**NOTE: Each test must have the appropriate tube type as the type of preservative or lack of preservative is required for each test as listed above, and cannot be interchanged (i.e., a Culture cannot be performed from the UA tube, etc.).**

## Timed Urine Collection

Timed urine collections may be for a two (2), twelve (12), or twenty-four (24) hour time period. The normal volume of urine collected over a 24-hour period ranges from 800-2000 mL. The laboratory supplies the containers to be used for the collections with the appropriate preservative added. The requesting location should send a message or a request slip to the laboratory with the name of the patient, the patient location, and the test(s) requested so that the 24-hour urine container can be prepared.

**Collection Container:** Obtain a urine jug from a Shands clinic or Outpatient Lab.

**Patient Collection Instructions for a 24-hour (Timed) Urine:**

1. When you arise in the morning, empty your bladder into the toilet.
2. Write this date and time on the collection container label along with your full name and date of birth.
3. Collect urine, day and night, for the next 24 hours. Add all urine collected into the 24-hour container.
4. Urine may be collected in a separate CLEAN container and carefully poured into the 24-hour urine collection jug.
5. The next morning (24 hours later) collect the last urine specimen (the first voided urine). Write the finish (end) time and date of this last collection on the container label.
6. Deliver the 24-hour specimen jug and test order to one of the Shands laboratory draw stations.

**Timed Urine Collection Notes:**

1. **IMPORTANT:** Keep the urine container in the refrigerator or on ice (e.g., home collection) throughout the collection time period.
2. Collect ALL urine during the 24-hour period, or the specimen will need to be recollected. (Volume of urine is measured for testing).
3. Some 24-hour urine tests also require a blood specimen such as creatinine clearance and urea clearance. Please check with the laboratory when you drop off your urine collection to see if a blood specimen is required.
4. Follow the same guidelines for a 2-hour or 12-hour urine collection. The label and test order must match the time period for what is collected.
5. If an aliquot of urine is lost during the collection period, note this variance on the collection label. If the volume lost is less than 10% of the final volume (by the patient's best estimate), the test may be continued. If the volume lost is greater than 10%, the entire specimen may have to be recollected.

## Body Fluid Specimens

Diagnostic testing may be performed on various fluids that are present in the body. Body fluids are usually collected by the physician. Each body fluid submitted for testing should indicate the source of the fluid on the order and the specimen label. Body fluid specimens and tests may include:

1. Amniotic Fluid
2. Ascitic Fluid
3. Bile Fluid
4. Cerebral Spinal Fluid (CSF)
5. Pericardial Fluid
6. Peritoneal Fluid
7. Pleural Fluid
8. Synovial Fluid
9. Thoracentesis Fluid
10. Aqueous or Vitreous Humor (Eye Fluid)

### General collection guidelines to follow include:

1. Lavender/purple (EDTA) top tubes for cell counts/differentials.
2. Clear/no additive tubes for Chemistry tests.
3. Sterile containers for Microbiology Cultures.
4. Sterile containers or clear/no additive tubes for Cytology and Surgical Pathology.
5. Refer to the EPIC Procedure Catalog for specific specimen collection requirements.

### SAFETY NOTES:

1. **CSF SPECIMENS:** If Creutzfeldt-Jacob Disease (CJD) or any other Prion Disease is suspected, contact the laboratory before sending the specimen. For more information regarding CJD, refer to the Shands Hospital Core Policy at <https://bridge.ufhealth.org/policies/creutzfeldt-jakob-disease-cjd-or-other-prion-diseases/>
2. Needles must be removed from the specimen collection syringes prior to submission. The laboratory will reject any specimen containers received if the needle is still attached.

## Bone Marrow Specimens

Bone marrow is collected by a clinician or pathologist in an aseptic environment. Specimens may be submitted for microbiology, cytology, flow cytometry and hematological evaluations. Specimens may consist of:

- Core Biopsy
- Aspirate
- Glass Slide Smears

Refer to the Hematopathology Section or the EPIC Procedure Catalog for specific Bone Marrow collection requirements.

## Stool and Sputum Specimens

Refer to the Microbiology section or the EPIC Procedure Catalog for more specific stool or sputum collection requirements.

## Tissue Specimens

Refer to the Surgical Pathology, Microbiology, or Cytology sections or the EPIC Procedure Catalog for more specific tissue collection requirements.

## Specimen Collection Guide











**General guidelines are outlined in this chart.**

**Refer to the EPIC Procedure Catalog for test specific collection and processing requirements.**

Laboratory	Test List Basic test list. Not all inclusive.	Tube Type and Additive	Standard Tube Minimum Volume Mixing Requirement		Other Collection Options and Comments
<b>CORE LAB</b> <b>Chemistry</b> <b>Hematology</b> <b>Coagulation</b> <b>Urinalysis</b> <b>Molecular</b> 352-265-0412  <b>Customer Service</b> 352-265-0412  <b>Sendouts</b> 352-594-0481 352-594-0482  <b>Medical Plaza Cancer Center Lab</b> 352-265-0722	Comprehensive and Basic Metabolic Panels, Renal Panel, Hepatic Panel, Cardiac Markers, Lipid Panel, Therapeutic Drug Levels, Alpha-1-Antitrypsin, etc.	<b>Light Green</b> PST Gel and Lithium Heparin for Plasma Separation		Min. Vol. 2 mL Mix 8-10 X	<b>Capillary Specimen</b>  Min. Vol. 400 µL Mix 8-10 X Light protected for tests with Bilirubin.
	Vitamin D 25-Hydroxy, Lithium, PTH, MPA, ASO, Folate, AFP, Protein Electrophoresis, Kappa/Lambda Light Chains, Hepatitis and HIV Testing, Procalcitonin, etc.	<b>Serum Separator Tube (Gold)</b> Clot Activator with Polymer Gel for Serum Separation		Min. Vol. 2 mL Mix 5 X	<b>Capillary Specimen</b>  Min. Vol. 400 µL Mix 5 X Light protected for tests with Bilirubin.
		<b>Red</b> No gel. Standard Silica-Coating		Min. Vol. 2 mL Mix 5 X	
	Trace Elements (Copper, Zinc, Lead, etc.)	<b>Royal Blue</b> Spray Coated K <sub>2</sub> EDTA		Min. Vol. 4 mL Mix 8-10 X	
	QuantiFERON-TB Gold Plus (QFT)	<b>Greiner Dark Green</b> Lithium Heparin		Min. Vol. 5 mL Mix 8-10 X	<b>TIME SENSITIVE.</b> Maintain the collected sample at 2°C to 8°C and transport to the lab within 24 hours.
	Complete Blood Counts (CBCs), Reticulocyte Counts, Erythrocyte Sedimentation Rate (ESR), Hemoglobin A1C, Hemoglobin Electrophoresis, Tacrolimus, Cyclosporin, Sirolimus, Ammonia (ON ICE), CMV PCR, EBV PCR, etc.	<b>Lavender/Purple</b> Spray Coated K <sub>2</sub> EDTA		Min. Vol. 2 mL Mix 8-10 X	<b>Capillary Specimen</b>  Min. Vol. 400 µL Mix 8-10 X
	Random or Timed Glucose, Oral Glucose Tolerance Test (OGTT), etc.	<b>Gray</b> Sodium Fluoride Potassium Oxalate		Min. Vol. 2 mL Mix 8-10 X	






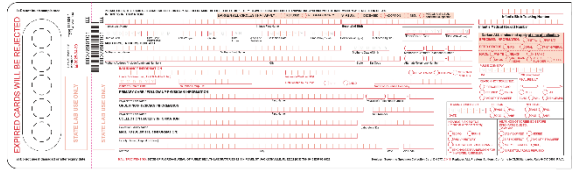


**General guidelines are outlined in this chart.**

**Refer to the EPIC Procedure Catalog for test specific collection and processing requirements.**

Laboratory	Test List	Tube Type and Additive	Standard Tube Minimum Volume Mixing Requirement		Other Collection Options and Comments	
	Crystal Analysis (Synovial Fluid), Platelet Mapping, Special Sendout Tests (Cytogenetics), etc.	Dark Green Sodium Heparin		Min. Vol. 3 mL Mix 8-10 X		
	PT/INR, PTT, Fibrinogen, Unfractionated Heparin, Low Molecular Weight Heparin (LMWH), Factor Activity Tests, Platelet Function Assay (PFA-100), TEG, Rapid TEG, Platelet Aggregation, etc.	Light Blue Sodium Citrate		2.7 mL Tube  Draw to FILL LINE.  Mix 3-4 X	1.8 mL Tube (Pediatric) 	Draw to FILL LINE.  Mix 3-4 X
	Platelet Function Testing for: Clopidogrel (Plavix) and ASA (Aspirin)	Greiner Light Blue Sodium Citrate		Obtain tube from Core Lab. Draw to FILL LINE. Mix 3-4 X		
	Urine Chemistry Tests and Urine Drug Screens	Clear/Red No Additive		Min. Vol. 2 mL		
	Random Urine for Urinalysis with Microscopy, Specific Gravity, pH, NephroCheck, etc.	Urinalysis Preservative Tube or Sterile Cup		Fill to line. Mix 5-8 X 72 Hours Room Temp.		1 Hour Room Temp. 24 Hours Refrigerated
	Urine for Culture and Sensitivity	Culture and Sensitivity (C&S) Preservative Tube		Fill tube. Shake tube vigorously to mix. 48 Hours Room Temp.		
	Timed Urine Tests (2, 12, or 24-Hour)	Urine Jug		Keep refrigerated during the entire collection.		
	Sweat Chloride	Special Collection Requirements	Contact Core Lab for more information.			
	Cerebrospinal Fluid (CSF)	Sterile Containers (LABEL EACH TUBE) 		CSF Tube 1: Chemistry Tests CSF Tube 2: PCR (Must be sterile) CSF Tube 3: Cell Count and Differential CSF Tube 4: Microbiology		

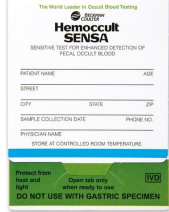

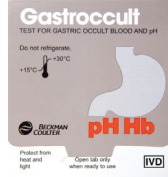






General guidelines are outlined in this chart.

Refer to the EPIC Procedure Catalog for test specific collection and processing requirements.

Laboratory	Test List Basic test list. Not all inclusive.	Tube Type and Additive	Standard Tube Minimum Volume Mixing Requirement	Other Collection Options and Comments
	<b>Instructions for Collecting Body Fluids:</b> <ol style="list-style-type: none"> <li>1. Collect 100 mL of body fluid.</li> <li>2. Aliquot adequate volume into specific collection containers listed.</li> <li>3. If unable to collect the optimal volume, send the entire specimen.</li> </ol>	Lavender/Purple Spray Coated K <sub>2</sub> EDTA		Cell Count and Differential (1-3 mL)
		Clear/Red No Additive		Chemistry Tests (1-3 mL)
		Sterile Containers/Cups		Microbiology Cultures (5 -10 mL)
		Sterile Containers/Cups		Cytology (At least 75 mL)
	Capillary Puncture Blood Collections	Filter Paper (Cards) <div> <div>Lead Test Card</div>  </div> <div> <div>Newborn Screening Specimen Card</div>  </div>		
<b>Blood Gas Lab</b> 352-265-0199	Arterial, Venous, or Cord Whole Blood: Blood Gas (pH, PCO <sub>2</sub> , PO <sub>2</sub> ), Sodium, Potassium, Glucose, Ionized Calcium, Lactic Acid, Hemoglobin, Hematocrit, Methemoglobin, Carboxyhemoglobin, etc.	<b>Heparinized Blood Gas Syringe (Arterial or Venous)</b>  <b>Deliver on ICE immediately.</b>  <b>Specimen is stable for 1 hour on ice and 30 minutes not iced.</b>	1 mL in a heparinized blood gas syringe or 0.5 mL in a 1 mL tuberculin syringe (Pediatric).  Keep syringe capped (Anaerobic).	
	Ionized Calcium	<b>Serum Separator Tube (Gold)</b> Clot Activator with Polymer Gel for Serum Separation		Fill tube. Mix 5 X  <b>For Outpatient Clinics, centrifuge tube and DELIVER ON ICE immediately to the Core Lab.</b>

**General guidelines are outlined in this chart.**

**Refer to the EPIC Procedure Catalog for test specific collection and processing requirements.**








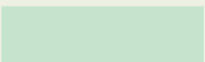


<b>Laboratory</b>	<b>Test List</b> Basic test list. Not all inclusive.	<b>Tube Type and Additive</b>	<b>Standard Tube Minimum Volume</b>	<b>Mixing Requirement</b>	<b>Other Collection Options and Comments</b>
	Hemoccult	<b>Stool on Hemoccult Card</b>			
	Gastrocuccult	<b>Gastric Aspirate on Gastrocuccult Card</b>	 Gastric Aspirate in Sterile Container/Cup	 Do not refrigerate. $15^{\circ}\text{C}$ to $30^{\circ}\text{C}$ . pH Hb Product from heat and light. Open lid only when ready to use. IVDI	Apply aspirate to the card and send to the Core Lab immediately.
<b>Blood Bank</b> 352-733-0900	Type and Cross, Type and Screen, Antibody Screen, etc.	<b>Pink</b> Spray Coated K <sub>2</sub> EDTA		Min. Vol. 2 mL Mix 8-10 X	Samples must be accompanied with a <b>Transfusion Services Time Out Verification Form.</b>
<b>Microbiology</b> 352-265-0165	SARS-CoV-2 PCR 4-plex (SARS-CoV-2/Flu/RSV) Respiratory Panel PCR	<b>Viral Transport Media</b>			Respiratory PCR: NP Swabs, NP Wash, NP Aspirates, and BAL.
<b>Transplant</b> 352-265-0072	HLA Typing (Specimens from Donor and Patient)	<b>Yellow (Glass)</b> ACD Solution A  Collect 3 ACD tubes each.		Min. Vol. 5 mL Mix 8 X	Both donor and recipient blood is required for HLA Typing.
	Antibody Screen (Specimen from Patient)	<b>Serum Separator Tube (Gold)</b> Clot Activator with Polymer Gel for Serum Separation <b>Red</b> No gel. Standard Silica-Coating	 	Min. Vol. 3 mL Mix 5 X	
<b>Hematopathology</b> 352-627-2101	Immunophenotyping by Flow Cytometry	<b>Lavender/Purple</b> Spray Coated K <sub>2</sub> EDTA		Min. Vol. 2 mL Mix 8-10 X	
<b>Point of Care (POC) Testing</b> 352-594-3707	Blood Gas, PT/INR, ACT, Lactate, Creatinine, Hematocrit, Basic Metabolic w/ Ionized Calcium, Glucose, etc.		<b>FOR APPROVED POC LOCATIONS ONLY.</b> Refer to standard operating procedures for collection requirements for each test system.		



## Blood Gas Lab Specimen Stability Chart (Summary)





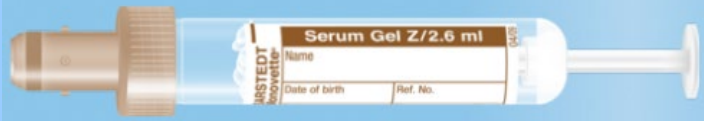

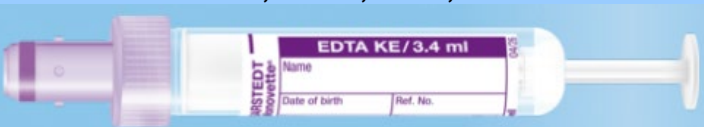
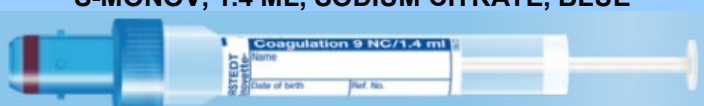
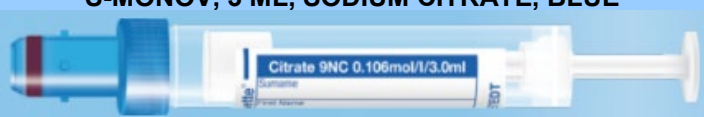
Test	Container	Specimen	Collection Instructions	Stability with Ice	Stability with No Ice
<b>Arterial Blood Gas (Inpatient)</b>	Heparinized Syringe	Whole Blood, Cord Blood	Deliver to the Core Lab immediately on ice.	1 hour	30 minutes
<b>Venous Blood Gas (Inpatient)</b>	Heparinized Syringe	Whole Blood, Cord Blood	Deliver to the Core Lab immediately on ice.	1 hour	30 minutes
<b>Venous Blood Gas (Outpatient)</b>	Dark Green Sodium Heparin Tube	Whole Blood	Deliver to the Core Lab immediately on ice.	2 hours	30 minutes
<b>Lactic Acid, Na, K, ICa, and Glucose (Inpatient)</b>	Heparinized Syringe	Whole Blood	Deliver to the Core Lab immediately on ice.	1 hour	30 minutes
<b>pH Body Fluid (Inpatient)</b>	Heparinized Syringe	Body Fluid	Deliver to the Core Lab immediately on ice.	1 hour	30 minutes
<b>TEG or TEG with Heparinase</b>	Light Blue Sodium Citrate Tube	Whole Blood	Fill tube. Specimen is stable at room temperature for 2 hours.	N/A	N/A
<b>Rapid TEG and Functional Fibrinogen</b>	Light Blue Sodium Citrate Tube	Whole Blood	Fill tube. Specimen is stable at room temperature for 2 hours.	N/A	N/A
<b>Platelet Mapping</b>	Dark Green Sodium Heparin Tube	Whole Blood	Fill tube. Specimen is stable at room temperature for 2 hours.	N/A	N/A
<b>Ionized Calcium (Outpatient)</b>	SST (Serum Separator Tube)	Serum	Centrifuge within 1 hour of collection and deliver to the Core Lab.	7 days	24 hours

## Order of Draw for Multiple Tube Collections

Closure Color	Collection Tube	Mix by Inverting
	Blood Cultures	8 to 10 times
	Serum (glass tube)	—
	Citrate	3 to 4 times
	BD SST™ Gel Separator Tube	5 times
	BD SST Gel Separator Tube	"
	Serum (plastic tube)	"
	Heparin	8 to 10 times
	BD PST™ Gel Separator Tube With Heparin	"
	EDTA	8 to 10 times
	Fluoride (glucose tube)	8 to 10 times



## Sarstedt Collection Tubes (Pediatric)

Department	Product Description	Product Number
Chemistry	<b>S-MONOV, 1.1 ML, LITHIUM HEPARIN-GEL, GREEN</b> 	<u>06.1669.100</u>
Chemistry	<b>S-MONOV, 4.7 ML, LITHIUM HEPARIN-GEL, GREEN</b> 	<u>03.1631.100</u>
Chemistry	<b>S-MONOV, 2.6 ML, SODIUM HEPARIN, GREEN</b> 	<u>04.1913.100</u>
Chemistry	<b>S-MONOV, 1.1 ML, SERUM-GEL, BROWN</b> 	<u>06.1667.001</u>
Chemistry	<b>S-MONOV, 2.6 ML, SERUM-GEL, BROWN</b> 	<u>04.1905.001</u>
Hematology	<b>S-MONOV, 1.2 ML, EDTA, PURPLE</b> 	<u>06.1664.100</u>
Hematology	<b>S-MONOV, 3.4 ML, EDTA, PURPLE</b> 	<u>06.1664.100</u>
Coagulation	<b>S-MONOV, 1.4 ML, SODIUM CITRATE, BLUE</b> 	<u>06.1668.100</u>
Coagulation	<b>S-MONOV, 3 ML, SODIUM CITRATE, BLUE</b> 	<u>05.1165.100</u>

# Laboratory Departments and Contacts

## Core Laboratories

**Manager:** Gloria Vashon  
**Email:** [wilkeq@shands.ufl.edu](mailto:wilkeq@shands.ufl.edu)  
**Office Phone:** 352-265-0412

**Medical Director:** Maximo Marin, MD  
**Email:** [maximo.marin@ufl.edu](mailto:maximo.marin@ufl.edu)  
**Office Phone:** 352-594-4953

**Technical Coordinator:** Elisha Roberts  
**Email:** [robeea@shands.ufl.edu](mailto:robeea@shands.ufl.edu)  
**Office Phone:** 352-265-0412

**Co-Medical Director:** Neil Harris, MD  
**Email:** [harris@pathology.ufl.edu](mailto:harris@pathology.ufl.edu)  
**Office Phone:** 352-594-4717

### **Pathology Resident On-Call:**

**352-213-1201** (9am to 5pm Weekdays)

**352-213-6811** (5pm to 9am Weekdays, Weekends, and Holidays)

**Scope of Service:** UF Health Medical Core Laboratories provides full service testing in Clinical Chemistry, Special Chemistry, Hematology, Coagulation, Urinalysis, and Blood Gas Analysis. All laboratories are equipped with state-of-the-art analyzers, which are selected to produce accurate results, fast result times, and high volume throughout. Routine tests performed on-site are generally resulted in less than **6 hours**. STAT test orders performed on-site are generally resulted within **60 minutes**.

For specimen collection questions, call Customer Service: **352-265-0412**

### **Core Laboratory at UF Health Shands Hospital**

North Tower, 3<sup>rd</sup> Floor, Room 3130 Hours of Operation: 24/7

Main Phone: 352-265-0412 Fax: 352-265-9910

Chemistry: 352-594-0475/0476

Hematology: 352-594-3887/0472

Coagulation: 352-594-0479

Urinalysis: 352-594-0472

Blood Gas Lab: 352-265-0199

Electrophoresis: 352-594-7186

### **Blood Gas Lab at UF Health Heart & Vascular and Neuromedicine Hospitals**

HVN Tower, 7<sup>th</sup> Floor, Room 7538

Hours of Operation: 24/7

Phone: 352-733-0574

Limited test menu includes blood gas testing, whole blood chemistries such as sodium, potassium, glucose, ionized calcium, and TEG (thromboelastograph) testing.

### **Bone Marrow Transplant (BMT) Laboratory at UF Health Shands Cancer Hospital**

South Tower, 7<sup>th</sup> Floor, Room 7018.1

Hours of Operation: Monday to Friday, 8 AM to 3 PM

Phone: 352-733-1559

Limited Hematology test menu (CBC and CBC w/ Differential only) for Transplant Patients.

### **Cancer Center Laboratory at UF Health Shands Medical Plaza**

Medical Plaza Building, Room 2163

Hours of Operation: Monday to Friday, 8 AM to 5 PM

Phone: 352-265-0722

Fax: 352-265-0734

Limited Chemistry, Hematology, and Coagulation test menu for Cancer Center/Infusion patients.

### **Florida Surgical Center Laboratory**

Florida Surgical Center

Hours of Operation: As needed.

Intraoperative PTH testing only.

### **Sendout Testing at UF Health Shands Hospital Core Laboratory**

North Tower, 3<sup>rd</sup> Floor, Room 3130

Hours of Operation: 24/7

Phone: 352-594-0481 or 352-594-0482

Fax: 352-265-0328

Non-urgent esoteric testing not performed on-site are referred to other acceptable laboratories for testing. Additional reference laboratories are utilized as needed to meet the needs of the patient. The Medical Director is available to consult with physicians to ensure that the testing needs are being met.

The primary reference laboratory is ARUP Laboratories. Contact Client Services at 800-522-2787 for questions about specific tests or visit their website at <https://www.aruplab.com/>.

### **UF Health Shands Emergency Center Medical Labs – Springhill and Kanapaha**

**Technical Coordinator:** Nilam Patel, MT(AMT)

**Email:** [patnil@shands.ufl.edu](mailto:patnil@shands.ufl.edu)

Springhill ED Main Phone: 352-627-0400, Laboratory: 352-627-0413

Kanapaha ED Main Phone: 352-627-0500, Laboratory: 352-627-0516

**Hours of Operation:** 24/7

**Scope of Service:** Limited test menu supporting Emergency Response, including Hematology, Coagulation, Chemistry, Urinalysis, Molecular, and waived testing. The TAT time for most tests is 60 minutes.

**Contact Customer Service at 352-265-0522 to request laboratory requisition forms (PS 42510).**

**<https://bridge.ufhealth.org/shands-forms/medical-laboratory-request-form/>**

# Microbiology Laboratory

UF Health Shands Hospital  
North Tower, 3<sup>rd</sup> Floor, Room 3164  
Hours of Operation: 24/7

**Main Phone:** 352-265-0165

**Fax:** 352-265-0204

**Manager:** Gloria Vashon

**Email:** [wilkeg@shands.ufl.edu](mailto:wilkeg@shands.ufl.edu)

**Medical Director:** Julie Kingery, MD

**Email:** [jkingery1@ufl.edu](mailto:jkingery1@ufl.edu)

**Office Phone:** 352-999-4934

**Technical Coordinator:** Anthea Sabol

**Email:** [sabola@shands.ufl.edu](mailto:sabola@shands.ufl.edu)

## **Pathology Resident On-Call:**

**352-213-1201** (9am to 5pm Weekdays)

**352-213-6811** (5pm to 9am Weekdays, Weekends, and Holidays)






**Scope of Service:** The Microbiology Laboratory provides full-service Bacteriology, Mycology, Mycobacteriology, Parasitology, Serology, and Virology testing for UF Health Shands Hospital and multiple outpatient facilities. Specimens of blood, body fluids, CSF, surgical biopsies, tissues, wounds, respiratory, feces, and urine are processed for isolation/identification of potential pathogenic infectious agents. Antimicrobial susceptibility testing is performed for appropriate organisms/sources.


## **Collection Guidelines:**

1. Each specimen should be considered potentially infectious; handle using Standard Precautions.
2. Each specimen requires collection in a STERILE and tightly capped/sealed container to avoid leakage and possible rejection of specimen due to contaminated exterior of container.
3. Specimens requested for Anaerobic Culture are to be collected in the Anaerobic Transport tubes. If not collected anaerobically, lab will need a new order appropriate for specimen type submitted.
4. BLOOD CULTURES for bacteria consist of one (1) Silver labeled AEROBIC bottle and one (1) Purple labeled LYTIC/ANAEROBIC bottle, with recommended blood volume of 8-10 mL each.
5. PEDIATRIC draws (1-3 mL) can be inoculated into a Pink-labeled PEDS PLUS (aerobic) bottle.
6. When ordering microbiology test(s) and test(s) for other Lab sections (e.g., Cytology), whenever feasible (e.g., urine specimen), please provide 2 separate containers — one designated for Microbiology testing (i.e., urine culture), and the other for the additional tests. Affix appropriate labels on each container. When possible, submit a separate specimen for AFB culture (most are sent out).
7. Tissue samples for bacterial culturing **MUST NOT** be placed into formalin fixative. Send the samples in a dry sterile container or with 1-5 mL of sterile saline solution in a sterile container to the Microbiology Laboratory directly. Except for punch biopsies, do **NOT** submit in gauze.
8. Specimens with needles attached will be rejected per UF Health Shands Hospital Infection Control Policy. Recapping of needles is contrary to UF Health Shands Hospital Infection Control policy and will also be rejected.

## Instructions for Microbiology Specimen Collection and Transport

Specimen	Collection Equipment	Transport	Instructions (Comments)
<b>Aerobic/Anaerobic Culture with Gram Stain</b>	Optimum recovery of anaerobes occurs with tissue or curetting, which can be placed into the anaerobic collection container. Aspirates collected in syringe (submitted without needles) are the next best specimen. Swabs are the least likely to yield clinically relevant results.	DO NOT refrigerate.  Use anaerobe transport tube or syringe without needle.	<ul style="list-style-type: none"> <li>• Avoid all O<sub>2</sub> exposure.</li> <li>• Use anaerobic transport tubes or expel air from syringe.</li> <li>• DO NOT submit needle-syringe or a syringe with cap only.</li> <li>• Label properly.</li> <li>• Submit (2) Tubes: One for CULTURE and one for STAT GRAM STAIN.</li> <li>• Deliver promptly to lab.</li> </ul>
<b>Actinomyces Culture</b>	Optimum recovery of Actinomyces occurs when specimen submitted is sent anaerobically. MOST Actinomyces species of clinical importance are obligate anaerobes, and do not survive in aerobic conditions. Swabs are less likely to yield clinically relevant results.	Use anaerobe transport tube or swab in anaerobic gel.	<ul style="list-style-type: none"> <li>• Avoid all O<sub>2</sub> exposure.</li> <li>• Use anaerobic transport tubes</li> <li>• Label properly.</li> <li>• Requires separate tube from other requested cultures.</li> <li>• Deliver promptly to lab.</li> </ul>
<b>Bone Marrow</b>	<b>Collect in a STERILE container AND</b> order as an Aerobic/Anaerobic Culture with Gram Stain, or submit in blood culture bottles and order as Body Fluid Culture. MUST meet bottle minimum volume requirements to use bottles.	Sterile Container or Blood Culture Bottles	<ul style="list-style-type: none"> <li>• Collect in Sterile Container and order as an Aerobic/Anaerobic Culture with Gram Stain.</li> <li>• Lab will process on plated media, broth media, and perform Gram Stain.</li> </ul>
<b>Blood</b>	Bactec Blood culture collection kit. Needle & syringe.	<p>Aerobic Plus/F and Anaerobic Lytic F bottles require 8-10 mL of blood per bottle.</p> <p>May use minimum of 3 mL. (False negatives may occur with suboptimal volume).</p> <p>Pediatric Plus/F bottles used for short draws (1-3 mL).</p>	<ul style="list-style-type: none"> <li>• Decontaminate puncture site.</li> <li>• Do not palpate disinfected site.</li> <li>• Decontaminate bottle stopper.</li> <li>• Label properly.</li> <li>• Deliver promptly to lab.</li> </ul>

	Adult Set		Pediatric Patients	AFB – Red	Fungal – Red
	Gray/Blue Top Aerobic F	Purple Top Lytic Anaerobic	Peds Plus Aerobic F	Myco F Lytic	Myco F Lytic
	8-10 mL of whole blood	8-10 mL of whole blood	1-3 mL of whole blood per bottle	1-5 mL of whole blood per bottle	1-5 mL of whole blood per bottle
	No less than 3 mL per bottle. No more than 10 mL per bottle.		May pair with Purple Lytic F bottle to give anaerobic result.		
					
<b>LABELING:</b> <ol style="list-style-type: none"> <li>PLEASE DO NOT COVER THE BOTTLE BARCODE! This is what the instrument “reads”.</li> <li>PLEASE LABEL “LENGTH-WISE”, NOT WRAPPED AROUND THE BOTTLE, for the lab to be able to scan patient label.</li> <li>There is a picture of a clock &amp; a patient in a bed, with lines. Please place label here.</li> </ol>					
Specimen	Collection Equipment	Transport	Instructions (Comments)		
<b>Brucella Blood Culture or suspected Brucella culture from other source.</b>	Collect as appropriate for the source in question.		<ul style="list-style-type: none"> <li>• <b>Notify Microbiology at 352-265-0165 and Infection Control at 352-265-0284 if Brucella is suspected.</b></li> </ul>		
<b>CSF Culture and Gram Stain</b>	Surgical prep & collection by physician.	Transport in CSF collection tube.	<ul style="list-style-type: none"> <li>• Surgical prep of puncture site.</li> <li>• Obtain 4-5 mL for adult patients.</li> <li>• Obtain 0.5-1.0 mL for pediatric patients.</li> <li>• Handle as a PRIORITY specimen; hand deliver to the laboratory.</li> <li>• <b>Only one tube available: Deliver to Microbiology for Culture FIRST.</b></li> <li>• Tube 4 and/or Tube 2, routinely send to Bacteriology and Molecular (respectively).</li> <li>• Label properly.</li> <li>• Deliver promptly to lab.</li> <li>• DO NOT refrigerate.</li> </ul>		
<b>Ear Culture</b>	Aspirate from Tympanocentesis.  Swab of drainage.	Transport Medium	<ul style="list-style-type: none"> <li>• Clean external ear surface.</li> <li>• CAREFULLY culture representative area.</li> <li>• Label properly.</li> <li>• Deliver promptly to lab.</li> </ul>		
<b>Eye Culture</b>	Small swab for each eye.  Corneal scraping (by physician).	Transport Medium	<ul style="list-style-type: none"> <li>• Do not touch external skin.</li> <li>• Obtain maximum material.</li> <li>• Label properly.</li> <li>• Deliver to lab promptly.</li> </ul>		

<b>Nasopharynx Culture</b>	Calcium alginate swab.  Transport medium.	DO NOT refrigerate.	<ul style="list-style-type: none"> <li>• Nasal speculum helpful.</li> <li>• Pass through the nose into nasopharynx.</li> <li>• Allow to remain for a few seconds.</li> <li>• Carefully withdraw.</li> <li>• Label properly.</li> <li>• Deliver promptly to lab.</li> </ul>
<b>Nose Culture</b>	Swab	Transport Medium	<ul style="list-style-type: none"> <li>• Swab anterior nares only.</li> <li>• Culture quickly.</li> <li>• Label properly.</li> <li>• Deliver promptly to lab.</li> </ul>
<b>Sinus Culture</b>	Small swab.	Transport Medium	<ul style="list-style-type: none"> <li>• Insert and remove quickly.</li> <li>• Label properly.</li> <li>• Deliver promptly to lab.</li> </ul>
<b>Sputum Culture Respiratory Culture BAL/Bronch Culture ETT Culture CF Respiratory Culture</b>	Sterile cup (Minimum 5 mL).	Refrigerate if needed.  Transport in collection cup.	<ul style="list-style-type: none"> <li>• Carefully instruct patient to cough deeply (not to spit).</li> <li>• First morning specimen is best. No 24-hour collection.</li> <li>• Seal container tightly and transport immediately.</li> <li>• <b>Notify Microbiology at 352-265-0165 and Infection Control at 352-265-0284 if TB on inpatients is suspected.</b></li> <li>• Label properly. Deliver promptly to lab.</li> <li>• CF Respiratory Culture is only for Cystic Fibrosis – (CF) patients. (<b>DO NOT</b> order if patient does not have CF).</li> </ul>
<b>Respiratory Samples for AFB Culture</b>	<b>Adults:</b> 5-10 ML of sample is the CDC recommendation.  <b>Pediatrics:</b> Any amount is accepted.		<ul style="list-style-type: none"> <li>• Respiratory sample-send first morning sample.</li> </ul>
<b>Throat</b>	Swab	Transport medium if more than 2-hour delay.	<ul style="list-style-type: none"> <li>• Use tongue blade.</li> <li>• Sample only back of throat between &amp; around tonsil area thoroughly.</li> <li>• Avoid cheeks, teeth, etc.</li> <li>• Label properly.</li> <li>• Deliver to lab promptly.</li> </ul>
<b>Urine</b>  	Transport gray top tube with Urine Culture and Susceptibility (C&S) Preservative (Boric Acid/Sodium Formate/Sodium Borate).  Minimum 4 mL of urine.  <b>Pediatric and OR Patients:</b> May submit sterile cup with less than 4 mL. Must be delivered to the lab within 2 hours of collection.  <b>Note: Cups from other locations will be rejected.</b> (Due to probability of false positive results.)	Transport in collection container.	<ul style="list-style-type: none"> <li>• Give patient clear and detailed instructions.</li> <li>• Clean with soap and NOT disinfectant.</li> <li>• Seal container tightly.</li> <li>• Label properly.</li> <li>• Deliver promptly to lab.</li> <li>• <b>Must be poured off into gray top in less than 2 HOURS from time of collection.</b></li> </ul>

<b>Superficial Wound</b>	Sterile container; swab or syringe.	Transport to lab quickly.	<ul style="list-style-type: none"> <li>Disinfect surface.</li> <li>Aspirate deepest portion of lesion.</li> <li>Swab affected area.</li> <li>Deliver to lab promptly.</li> </ul>
<b>Burn Wound</b>	Sterile container; swab.	Transport to lab quickly.	<ul style="list-style-type: none"> <li>Disinfect surface.</li> <li>Swab affected area.</li> <li>Deliver to lab promptly.</li> </ul>
<b>Catheter Tip</b>	Sterile Container	Transport to lab quickly. Do NOT submit with needle attached – will be rejected per hospital protocol.	<ul style="list-style-type: none"> <li><b>DO NOT</b> submit more than 2.75 inches or 7 cm. Greater than 2.75 inches cannot be properly cultured.</li> <li><b>ONLY</b> suitable for bacterial culture. AFB and Fungal Cultures will not be performed.</li> </ul>

- O & P is not performed in the Microbiology Lab. The GI PCR Panel encompasses the most common parasites.
- Stool culture is not performed in the Microbiology Lab. The GI PCR Panel encompasses the stool pathogens.
- NOTE: C. difficile is not included in the GI PCR Panel and is a separate test order (EPIC).**
- The GI PCR Panel includes:

Bacteria Detected	Parasites Detected	Viruses Detected
<i>Campylobacter (jejuni, coli, and upsaliensis)</i>	<i>Cryptosporidium</i>	<i>Adenovirus F 40/41</i>
<i>Plesiomonas shigelloides</i>	<i>Cyclospora cayetanensis</i>	<i>Astrovirus</i>
<i>Salmonella</i>	<i>Entamoeba histolytica</i>	<i>Norovirus GI/GII</i>
<i>Yersinia enterocolitica</i>	<i>Giardia lamblia</i>	<i>Rotavirus A</i>
<i>Vibrio (parahaemolyticus, vulnificus, and cholerae)</i>		<i>Sapovirus (I, II, IV, and V)</i>
<i>Diarrheagenic E. coli/Shigella</i>		
<i>Enteraggregative E. coli (EAEC)</i>		
<i>Enteropathogenic E. coli (EPEC)</i>		
<i>Enterotoxigenic E. coli (ETEC) lt/st</i>		
<i>Shiga-like toxin-producing E. coli (STEC) stx1/stx2</i>		
<i>E. coli O157</i>		
<i>Shigella/Enteroinvasive E. coli (EIEC)</i>		

#### Stool Requirements for GI PCR Panel:

- Submit 1-2 mL/grams of stool in a clean plastic screw cap container (tightly sealed).

#### Rejection Criteria for GI PCR Panel:

- Duplicate orders within 14 days are cancelled (Infection Control policy).
- Samples submitted in white "commode" bowls are not accepted; these are not biosafety compliant due to leakage.



#### Stool Requirements for C. difficile PCR:


- Submit 2-5 mL of liquid or loose stool in a clean plastic screw cap container (tightly sealed).

#### Rejection Criteria for C. difficile PCR:

- Formed/hard stool is rejected as inappropriate.
- Not performed on children less than 2 years of age.
- Duplicate orders within 7 days are cancelled (Infection Control policy).
- Samples submitted in white "commode" bowls are not accepted; these are not biosafety compliant due to leakage.





<b>Respiratory PCR with CoV (RP2)</b> 	<ul style="list-style-type: none"> <li>• Appropriate samples: NP SWABS, NP WASH, NP Aspirates, and BAL specimens in Viral Transport Media.</li> <li>• Other sample types are not FDA approved for this method.</li> <li>• Obtain specimen with flocked swab (available in the Viral Transport pack).</li> <li>• After specimen collection, insert the swab into the liquid Viral Transport medium and then break off the end carefully. Cap the vial securely to avoid leakage.</li> <li>• Tests offered:</li> </ul> <div> <div> <b>VIRUSES:</b> <ul style="list-style-type: none"> <li>• Adenovirus</li> <li>• Coronavirus 229E</li> <li>• Coronavirus HKU1</li> <li>• Coronavirus NL63</li> <li>• Coronavirus OC43</li> <li>• <b>Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2)</b></li> <li>• Human Metapneumovirus</li> <li>• Human Rhinovirus/Enterovirus</li> </ul> </div> <div> <ul style="list-style-type: none"> <li>• Influenza A virus</li> <li>• Influenza A virus A/H1</li> <li>• Influenza A virus A/H3</li> <li>• Influenza A virus A/H1-2009</li> <li>• Influenza B virus</li> <li>• Parainfluenza virus 1</li> <li>• Parainfluenza virus 2</li> <li>• Parainfluenza virus 3</li> <li>• Parainfluenza virus 4</li> <li>• Respiratory syncytial virus</li> </ul> </div> <div> <b>BACTERIA:</b> <ul style="list-style-type: none"> <li>• <i>Bordetella parapertussis</i></li> <li>• <i>Bordetella pertussis</i></li> <li>• <i>Chlamydia pneumoniae</i></li> <li>• <i>Mycoplasma pneumoniae</i></li> </ul> </div> </div>
<b>Cryptococcal Antigen</b>	<ul style="list-style-type: none"> <li>• Serum or CSF (1 mL).</li> <li>• <b>Note for CSF:</b> If ordering for Cryptococcal Antigen, also order CSF Culture.</li> </ul>
<b>Meningitis/Encephalitis PCR</b>	<ul style="list-style-type: none"> <li>• Appropriate sample is CSF collected in a Sterile CSF Collection Tube.</li> <li>• Other sample types are not FDA approved for this method.</li> </ul> <div> <div> <b>BACTERIA:</b> <ul style="list-style-type: none"> <li>• <i>Escherichia coli</i> K1</li> <li>• <i>Haemophilus influenzae</i></li> <li>• <i>Listeria monocytogenes</i></li> <li>• <i>Neisseria meningitidis</i></li> <li>• <i>Streptococcus agalactiae</i></li> <li>• <i>Streptococcus pneumoniae</i></li> </ul> </div> <div> <b>VIRUSES:</b> <ul style="list-style-type: none"> <li>• Cytomegalovirus (CMV)</li> <li>• Enterovirus (EV)</li> <li>• Herpes simplex virus 1 (HSV-1)</li> <li>• Herpes simplex virus 2 (HSV-2)</li> <li>• Human herpesvirus 6 (HHV-6)</li> <li>• Human parechovirus (HPeV)</li> <li>• Varicella zoster virus (VZV)</li> </ul> </div> <div> <b>YEAST:</b> <ul style="list-style-type: none"> <li>• <i>Cryptococcus (C. neoformans/C. gattii)</i></li> </ul> </div> </div>
<b>Pneumonia PCR</b>	<ul style="list-style-type: none"> <li>• Appropriate samples: Sputum or BAL (Bronchial Lavage). Do NOT place in Viral Transport media. Sample MUST be undiluted.</li> <li>• Other sample types are not FDA approved for this method.</li> <li>• Obtain specimen in a sterile cup. Tighten the lid of the cup securely to avoid leakage. Consider specimens potentially infectious with COVID-19.</li> </ul> <div> <div> <b>BACTERIA:</b> (Semi-Quantitative) <ul style="list-style-type: none"> <li>• <i>Acinetobacter calcoaceticus-baumannii</i> complex</li> <li>• <i>Enterobacter cloacae</i> complex</li> <li>• <i>Escherichia coli</i></li> <li>• <i>Haemophilus influenzae</i></li> <li>• <i>Klebsiella aerogenes</i></li> <li>• <i>Klebsiella oxytoca</i></li> <li>• <i>Klebsiella pneumoniae</i> group</li> <li>• <i>Moraxella catarrhalis</i></li> <li>• <i>Proteus</i> spp.</li> <li>• <i>Pseudomonas aeruginosa</i></li> <li>• <i>Serratia marcescens</i></li> <li>• <i>Staphylococcus aureus</i></li> <li>• <i>Streptococcus agalactiae</i></li> <li>• <i>Streptococcus pneumoniae</i></li> <li>• <i>Streptococcus pyogenes</i></li> </ul> </div> <div> <b>ATYPICAL BACTERIA:</b> (Qualitative) <ul style="list-style-type: none"> <li>• <i>Chlamydia pneumoniae</i></li> <li>• <i>Legionella pneumophila</i></li> <li>• <i>Mycoplasma pneumoniae</i></li> </ul> </div> <div> <b>VIRUSES:</b> <ul style="list-style-type: none"> <li>• Adenovirus</li> <li>• Coronavirus</li> <li>• Human metapneumovirus</li> <li>• Human rhinovirus/enterovirus</li> <li>• Influenza A virus</li> <li>• Influenza B virus</li> <li>• Parainfluenza virus</li> <li>• Respiratory syncytial virus</li> </ul> </div> <div> <b>ANTIMICROBIAL RESISTANCE GENES:</b> <p>Carbapenemases:</p> <ul style="list-style-type: none"> <li>• IMP</li> <li>• KPC</li> <li>• NDM</li> <li>• OXA-48-like</li> <li>• VIM</li> </ul> <p>ESBL:</p> <ul style="list-style-type: none"> <li>• CTX-M</li> </ul> <p>Methicillin resistance:</p> <ul style="list-style-type: none"> <li>• <i>mecA/C</i> and <i>MREJ</i> (MRSA)</li> </ul> </div> </div>

## Point of Care

### UF Health Shands Hospital

**Main Operations Location: North Tower, Room 3101 and HVN Tower, Room G540**

**Hours of Operation: 0630 AM to 0530 PM Weekdays**

**Main Phone:** 352-594-3707

**On-Call Phone:** 352-256-7031

**Manager:** Abby Estilong, MT (ASCP)

**Email:** [estila@shands.ufl.edu](mailto:estila@shands.ufl.edu)

**Office Phone:** 352-594-4873

**Medical Director:** Clive Wasserfall, PhD

**Email:** [wasserfa@pathology.ufl.edu](mailto:wasserfa@pathology.ufl.edu)

**Office Phone:** 352-273-9298

#### **Pathology Resident On-Call:**

**352-213-1201** (9am to 5pm Weekdays)

**352-213-6811** (5pm to 9am Weekdays, Weekends, and Holidays)

**Scope of Service:** The Point of Care (POC) Department within UF Health Shands Hospital provides support for waived and alternate site testing in the following UF Health Shands locations: Women and Children's Hospital, Cancer Hospital, HVN Hospitals, Medical Plaza, Cancer Center, Florida Surgical, Children's Surgical, Oaks Surgical, Shands Endoscopy, Inpatient and Outpatient Dialysis, Wound Care, Pain Management Clinic, ShandsCair and Psychiatric Hospital. All point of care locations are equipped with state-of-the-art testing devices which are validated to produce accurate and fast result times.

All POC tests require a provider order. New Point of Care test requests follow a "Needs Assessment" process prior to implementation. Please visit the UF Health Shands Bridge: <https://bridge.ufhealth.org/policies/poc-needs-assessment-form-65053-2549/>

# Transfusion Services (Blood Bank) Laboratory

UF Health Shands Hospital  
South Tower, Ground Floor, Room G110

**Hours of Operation:** 24/7

**Fax:** 352-733-0812

**Main Phone:** 352-733-0900

**Medical Director:** Peter Pelletier, MD

**Email:** [pelletierp@ufl.edu](mailto:pelletierp@ufl.edu)

**Office Phone:** 352-594-0490

**Supervisor On-Call:** 352-260-3358

**Manager:** Michael Passwater

**Email:** [mpas0001@shands.ufl.edu](mailto:mpas0001@shands.ufl.edu)

**Cell Phone:** 252-917-2295

**Co-Medical Director:** Faisal Mukhtar, MD

**Email:** [fmukhtar@ufl.edu](mailto:fmukhtar@ufl.edu)

**Office Phone:** 352-594-0487

**Associate Medical Director:** Gregory Olsen, MD

**Email:** [golsen@ufl.edu](mailto:golsen@ufl.edu)

**Office Phone:** 352-627-2030

## **Pathology Resident On-Call:**

**352-213-1201** (9am to 5pm Weekdays)

**352-213-6811** (5pm to 9am Weekdays, Weekends, and Holidays)

**Scope of Service:** The Blood Bank department provides a wide array of immunohematology services using the most advanced technology to assist the physician in obtaining quality test results as well as a variety of blood products available to manage the diversified group of patients that are encountered at UF Health Shands Cancer Hospital.

## **Services Offered:**

- Blood Bank Laboratory Tests
- Blood Products
- Pathology Consultations
- Remote (Point of Service) Emergency Blood Refrigerator Locations: SHED, KED, AED Trauma/Resuscitation Bay Area, STOR, NTOR 2352, and PCICU).

## **Additional Requirements:**

- For pre-transfusion Type and Screen tests performed in the Blood Bank, the specimen must be sent with a completed Type and Screen Time-Out Verification Form to be accepted for compatibility testing. (Form 100030156: <https://bridge.ufhealth.org/shands-forms/transfusion-services-time-out-verification-form/>)
- A physician's written or electronic order is to accompany the patient sample when ordering Blood Bank tests and/or blood products.
- Samples with any errors or missing information on the specimen label or verification form will be rejected.

# Cytopathology Laboratory

## UF Health Medical Lab – Rocky Point

**Hours of Operation: Monday to Friday 0800 AM to 0430 PM**

**Main Phone:** 352-627-2119 or 352-627-2120

**Fax:** 352-627-2017

**Fine Needle Aspiration (FNA) Laboratory at UF Health Shands Hospital**

**North Tower, 2<sup>nd</sup> Floor, Room 2092/2093**

**Hours of Operation: 0830 AM to 0330 PM**

**Cell Phone:** 352-246-5358

**Pathology Resident On-Call:**

**352-213-1201** (9am to 5pm Weekdays)

**352-213-6811** (5pm to 9am Weekdays, Weekends, and Holidays)

**Manager:** Pamela Gillard, SCT (ASCP)

**Email:** [pgil0002@shands.ufl.edu](mailto:pgil0002@shands.ufl.edu)

**Office Phone:** 352-627-2115

**Medical Director:** Marino Leon, MD

**Email:** [marino.leon@ufl.edu](mailto:marino.leon@ufl.edu)

**Office Phone:** 352-627-9260

**Scope of Service:** The function of the Cytology Laboratory is to evaluate exfoliated or aspirated cells for abnormalities. These abnormalities include the presence of cancer, precancerous conditions, infection due to fungus, virus, parasites, bacteria, etc. The cytology services include processing, evaluating, and performing diagnostic interpretation on the specimens submitted. All specimens are examined and interpreted by the cytotechnologists and given to the pathologist for review and final diagnosis. The cytology laboratory staff assists in Fine Needle Aspiration (FNA) procedures in various areas stationed only in UF Health Shands and only during regular hours (8:30 AM to 3:30 PM). Please be aware that staff available to assist with FNA procedures is limited. Patience with scheduling assistance is appreciated. Should an FNA be anticipated after 3:30 PM, please contact FNA service during operating hours for needed supplies. Residents are available for questions but do not assist with FNA slide preparation and assessment of adequacy.

**STAT specimens are processed between 7 AM and 3 PM. Contact Lab Customer Service at 352-265-0522 for rush pick-up and delivery to Rocky Point.**

**After hours, contact on-call Pathology Resident at 352-213-6811. STAT specimens MUST have a direct contact phone number of requesting clinician on the requisition.**

### Collection Guidelines (Other than Fine Needle Aspiration)

1. The cytology orders should be placed in Epic, and the printed order submitted along with the specimen.
2. Contact laboratory before obtaining CSF specimen on patient suspected to have CJ disease.
3. All specimens must be capped/sealed tightly.
4. When ordering cytologic evaluation and tests for other labs, whenever feasible, please provide a separate specimen for the Cytology Laboratory. If one specimen is to be shared between two laboratories, please indicate so.
5. Refrigerate specimens that cannot be sent immediately.

### **Breast Secretions:**

Secretion from the nipple can be obtained in up to 70% of women who have borne children. There are two procedures that are acceptable for handling of the breast cytology specimen.

1. **Six-slide technique:** Secretion from the nipple is expressed on six slides, labeled with the patient's last name and 2<sup>nd</sup> identifier. As the drop of secretion appears, the first slide is gently brought to the drop and the secretion is smeared on the slide using a slide push technique as employed in Hematology. In this technique, a second slide is simply brought up to the drop, the drop is permitted to spread across the joining edges of the slide and, at that point, the forwarding slide is pushed across the surface smearing the sample. Alternatively, make the smear by using another slide laid on top of the drop. After the drop spreads from the weight of the slide, pull the slides apart in opposite directions. The sample is immediately placed into alcohol reagent (95% alcohol) or sprayed using an appropriate fixative, being certain the spraying nozzle is at least 12 inches away from the sample. The material should be submitted directly to Cytopathology (Core Lab).
2. **Breast secretion employing the cytocentrifuge technique:** Collection of the sample employing these technologies requires that the sample preferably be collected fresh in a clean covered container and submitted directly to Cytopathology (Core Lab). In these cases, at least 2 mL of sample is generally required to perform cytologic evaluation. If a delay is anticipated, the collected fluid should be added to a CytoLyt™ (ThinPrep preservative) vial or CytoLyt fluid should be added to the rinsed fluid to fixed/preserve the material. The minimum ratio of CytoLyt to sample is 1-part CytoLyt to 3 parts sample. If the sample cannot be submitted directly to Cytopathology, the sample must be refrigerated until it can be delivered to Cytopathology (Core Lab).
3. **Fine needle aspiration (FNA)** may also be used for breast masses. Please see FNA guidelines below.

**Corneal (Eye):** Samples are collected by the ophthalmology clinicians and submitted dependent of the clinical differential. If looking **ONLY** for fungi or Acanthamoeba, the slide(s) should be submitted as air-dried smears accompanied by a request for GMS (silver) stain. The slide, which must have the patient's last name and 2<sup>nd</sup> identifier written on the frosted end, is given an accession number and submitted to Histology for a Gomori methenamine silver (GMS) stain and evaluated for the presence of fungi or Acanthamoeba. The sample should be submitted to the section of Cytopathology (Core Lab).

**Effusions-Ascites, Pleural OR Pericardial:** If a specimen can be transported promptly to the lab, we prefer the fresh fluid. If it cannot be brought immediately, add 3 units of heparin per mL of fluid as precaution against clotting, and place in refrigerator until it can be delivered. We prefer **at least 75 mL** of sample or more if possible (up to 100 mL).

**Female Genital Tract – Monolayer Paps:** Obtain an adequate sample. (See ThinPrep Pap kit for detailed collection information.) Rinse spatula/broom in preservative solution and discard collection device. Tighten the cap on vial and label with the patient's name before placing in transport bag. HPV, GC, and CT testing is now available.

**Gastrointestinal Tract:** Brushing material may be smeared directly on slides, which should have the patient's last name and a second identifier printed in pencil on one end. If prepared, the smears should be fixed IMMEDIATELY in 2% solution of Acetic Acid in Reagent Alcohol (AARA) and the slides sent to the Cytopathology Lab (Core Lab). If the brush is used in multiple passes in the same site, the brush should be rinsed in a sterile container with 5 mL of sterile **Plasma-lyte or sterile balanced electrolyte solution** (BSS; e.g. Hanks' Balanced Salt solution). Immediately, after the procedure is finished, cellgro™ may be added to this rinse fluid. If a delay is anticipated, the rinse fluid should be added to the CytoLyt™ (ThinPrep preservative) vial or CytoLyt should be added to the rinsed fluid to fixed/preserve the material. The minimum ratio of CytoLyt to sample is 1-part CytoLyt to 3 parts sample. The brush used in the procedure may be submitted in CytoLyt (ThinPrep preservative) preservative fluid (provided by the Lab) for processing with prepared slides.

**Respiratory Tract:** Sputum – Instruct the patient to cough deeply (from the diaphragm) to expectorate a deep cough specimen and not saliva. We prefer a fresh sample. If a delay is anticipated, the fluid should be added to a CytoLyt (ThinPrep preservative) vial or CytoLyt should be added to the rinsed fluid to fixed/preserve the material. The minimum ratio of CytoLyt to sample is 1-part CytoLyt to 3 parts sample.

Please send specimen to the lab immediately. The specimen may be refrigerated until it can be delivered to the Cytopathology lab (Core Lab). For best results, a series of early morning specimens should be submitted each morning for 3 consecutive days.

**Bronchial:** Fresh bronchial secretions or washings are used. We prefer a fresh sample. If a delay is anticipated, the fluid should be added to the CytoLyt (ThinPrep preservative) vial or CytoLyt should be added to the rinsed fluid to fixed/preserve the material. The minimum ratio of CytoLyt to sample is 1-part CytoLyt to 3 parts sample. Please send specimen to the lab immediately or refrigerate until specimen can be delivered to Cytopathology for processing.

If slides are made, print the patient's last name and 2<sup>nd</sup> identifier with pencil on one end of all-frosted slides, smear brushing or aspirated material and fix the slide immediately in alcohol reagent (95% ethanol). **DO NOT ALLOW SMEAR TO AIR DRY!** The brush may also be placed in saline and submitted. Three post-bronchoscopy sputum specimens obtained over the next 3 days may be sent to the lab. These are rich in exfoliated cells from the bronchial epithelium and are of great diagnostic value.

#### **NOTES:**

1. Bronchoalveolar lavage is preferred for detection of *Pneumocystis carinii*.
2. In cases where a sample is to be shared between Cytology and Microbiology, a cytology order should be placed in EPIC and submitted with the specimen to the lab.

**Spinal Fluid:** Bring the fresh specimen **PROMPTLY** to the lab for processing. A sample size of at least 1-3 mL is needed. If a lymphoproliferative disorder is suspected, submit the CSF to Hematopathology for analysis.

**Urinary Tract:** For Cancer Detection, send fresh urine or bladder washing immediately to the Cytopathology Lab (Core Lab). Please indicate whether specimen is voided or catheterized urine or bladder washing. If specimen cannot be brought immediately to the lab, it **MUST** be refrigerated.

**For Cytomegalic Inclusion Disease (CMV) or Polyoma (BK virus) Detection:** Fresh urine should be sent **IMMEDIATELY** to the Cytopathology Lab after collection. A 35 mL minimum volume is required.

PCR testing is the preferred method of detection for BKV and CMV. BKV and CMV are performed on plasma specimens and BKV is also done on urine specimens.

**Wound or Lesion Scrapes:** Print patient's last name and 2<sup>nd</sup> identifier with pencil on one end of all-frosted slide, scrape the wound with moistened tongue blade, and place the material directly on the slides. Place the slides **IMMEDIATELY** in alcohol reagent (95% ethanol), or spray with an appropriate fixative, keeping the spray nozzle 12 inches away from the slide surface. If the wound is hard and crusted it should be soaked with warm saline prior to obtaining the scrape. These will be Pap stained.

**Testing Note:** Old style "Tzanck" smears for viral changes are of low quality and we no longer will interpret.

#### **Fine Needle Aspiration Procedure**

**Purpose:** The purpose of Fine Needle Aspiration (FNA) is to obtain diagnostic cells from a designated site without using open biopsy techniques.

**Principle:** Tissue is obtained from a specific anatomic site with or without the aid of radiological assistance.

**Specimen:** Fine needle aspiration of masses for cytological examination.



**Safety Note:** All specimens must be submitted in closed containers, properly labeled, and transported in biohazard bags.

The aspirate should be placed directly into **cellgro™ (DMEM Liquid Classical Cell Culture Media; similar to RPMI)** when immediate assistance is NOT available. This cell transport fluid may be obtained from the Cytopathology FNA Lab.

**Smears:** Smears are labeled with last name and 2<sup>nd</sup> identifier. The smears are prepared from a small drop of the semisolid aspirate placed on a glass slide. If using a syringe, the FNA syringe should have at least 2 mL of air before starting the FNA pass. After withdrawing the needle from the patient, advance the plunger of the syringe to express a small drop of the aspirated material on the center of a labeled glass side. Place the bevel of the needle against the slide while expressing this drop so that there is no intervening airspace which will cause drying artifacts in the alcohol fixed smears.

Make the smear by using another slide laid on top of the drop. After the drop spreads from the weight of the slide, pull the slides apart in opposite directions. Immediately after separating the slides, place one slide into reagent alcohol and allow the second slide to air dry for rapid staining. The rest of the FNA material can then be placed in the transport fluid.

Cyst fluid or predominately bloody specimens that fill the syringe can be submitted in a sterile container properly labeled or placed in transport solution and submitted to the Cytopathology Lab (Core Lab).

Smears should be fixed in alcohol reagent or spray fixed while wet for Papanicolaou stain. Air-dried smears are helpful for special stains and for immediate evaluation for adequacy using rapid stains. It is preferable to make only 2 slides per aspiration attempt (one air-dried and one fixed). If submitting spray-fixed smear slides it is important to indicate which are spray-fixed and which are air-dried, as these are handled differently.

As much of the aspirate as possible should be placed in **cellgro™ (DMEM or RPMI)** for possible Flow Cytometry in suspected cases of lymphoma. Additional passes are recommended. If cultures for bacteria or virus are needed, a separate sample should be submitted directly to Microbiology for appropriate studies.

**EACH SPECIMEN IS TO BE SUBMITTED WITH AN APPROPRIATE EPIC ORDER FORM.**

# Surgical Pathology

UF Health Shands Hospital (North Tower, Room 2350)  
UF Health Shands Cancer Hospital (South Tower, Room UA2325)  
UF Health Heart & Vascular and Neuromedicine Hospitals (East Tower, Room UB2555)

**Hours of Operation: Monday to Friday 0800 AM to 0500 PM**

**Main Phone:** 352-627-9268

**Fax:** 352-627-9271

**Senior Manager:** Pamela Gillard, SCT (ASCP)

**Email:** [pgil0002@shands.ufl.edu](mailto:pgil0002@shands.ufl.edu)

**Office Phone:** 352-627-2115

**Anatomic Pathology Director:** Jesse Kresak, MD

**Email:** [jkresak@ufl.edu](mailto:jkresak@ufl.edu)

**Office Phone:** 352-627-9253

**Surgical Pathology Manager:** James Breedon

**Email:** [jbreedon@pathology.ufl.edu](mailto:jbreedon@pathology.ufl.edu)

**Office Phone:** 352-733-1086

**Surgical Pathology Director:** Marie Rivera-Zengotita, MD

**Email:** [mriveraz@ufl.edu](mailto:mriveraz@ufl.edu)

**Office Phone:** 352-627-9251

**Pathology Resident On-Call:**

**352-213-1201** (9am to 5pm Weekdays)

**352-213-6811** (5pm to 9am Weekdays, Weekends, and Holidays)

**Scope of Service:** Surgical Pathology processes surgical specimens from inpatients, outpatients, and autopsies for a wide variety of tests on tissue sections for demonstration of organisms, substances, and structures. The tests include the demonstration of bacteria, fungi, protozoans, and inclusion bodies; pigments and minerals; carbohydrates and mucoproteins; fats and lipids; nerve cells and fibers; hematologic and nuclear elements; cytoplasmic granules and connective tissue elements, and enzymes. Preparations are made for light microscopy, fluorescent antibody tests and immunoperoxidase techniques using paraffin and frozen section techniques, respectively.

**Specimen Submission Guidelines:**

**PREFERRED: EPIC SURGICAL PATHOLOGY TISSUE ORDER (LAB8)**

**SURGICAL PATHOLOGY REQUISITION (DOWNTIME FORM) (PS 106575):**

<https://bridge.ufhealth.org/shands-forms/surgical-pathology-requisition/>

**Each form is to include:** Patient's first and last name, DOB, UF Health medical record number, pertinent clinical history, submitting physician's name (legible) and signature, date of collection/service, exact anatomic source of specimen, service/department/clinic/OR#. If patient does not have a UF Health medical record number, provide patient's address, insurance information, and social security number.

The specimen must be labeled with the patient's full name, MR#, or DOB, and exact anatomical specimen source (e.g., left breast biopsy).

**Deliver specimens with appropriate forms:**

**Regular Hours:** Monday – Friday, 8 AM to 5 PM, to either the Surgical Pathology Lab at UF Health Shands Hospital North Tower (Room 2350) or at the UF Health Shands Cancer Hospital South Tower (Room 2325).

**After Hours:** Monday – Friday, 5 PM to 8 AM and weekends or holidays, deliver to the Core Lab window at North Tower (3<sup>rd</sup> Floor, Room 3130).

**Contact on-call Pathology Resident at 352-213-6811 about STAT specimens after hours.**



**Tissue Samples for Bacterial or Fungal Culture:**

- MUST NOT be placed into formalin fixative.
- Send the samples in a dry sterile container or with 1-5 mL of sterile saline solution in a sterile container to the Microbiology Laboratory (North Tower, Room 3165) directly.

**Fresh tissue (kidney, heart, or skin) specimens for Immunofluorescence Testing (kidney, heart, or skin), Flow Cytometry (lymphoma work-up), and Muscle/Nerve Biopsies:**

- Deliver on saline-soaked gauze to UF Health Shands North Tower Surgical Pathology Gross Room (Room 2350) or South Tower Gross Room (Room 2325).
- **NOTE:** To ensure proper handling, contact the North Tower Gross Room (352-265-0212) or South Tower Gross Room (352-733-0901) when sending fresh specimens.

**Specimens for Routine Light Microscopy:**

- Place tissue in 10% neutral buffered formalin (NBF) 20 times tissue volume in a leak proof container that is properly labeled and deliver to the Gross Room either at UF Health Shands Hospital North Tower, Room 2350 or UF Health Shands Cancer Hospital South Tower, Room 2325.

**Surgical Pathology Consults:**

- Submit slides, a copy of the corresponding Pathology Report from the referring location, and a completed Outpatient UF Health Shands Surgical Pathology request. Deliver to the Surgical Pathology office at UF Health Shands Hospital (North Tower), MSB Building, Room N1-10.

**Outpatient Muscle Biopsies or Medical Renal Biopsies:**

- Contact Histology Laboratory at the UF Health Medical Lab – Rocky Point facility before obtaining a specimen. Call 352-265-0680, extension 72117.

# Histopathology Laboratory

## UF Health Medical Lab – Rocky Point

**Hours of Operation: Monday 2 AM through Saturday 930 AM**

**Main Phone:** 352-627-2118

**Manager:** Pamela Gillard, SCT (ASCP)

**Email:** [pgil0002@shands.ufl.edu](mailto:pgil0002@shands.ufl.edu)

**Office Phone:** 352-627-2115

**Technical Supervisor:** Jason Hicks

**Email:** [jhic0004@shands.ufl.edu](mailto:jhic0004@shands.ufl.edu)

**Office Phone:** 352-627-2113

**Histology Medical Director:** Joanna Chaffin, MD

**Email:** [jomchaffin@ufl.edu](mailto:jomchaffin@ufl.edu)

**Office Phone:** 352-627-2052

**IHC Medical Director:** Sara Falzarano, MD

**Email:** [sfalzarano@ufl.edu](mailto:sfalzarano@ufl.edu)

**Office Phone:** 352-627-9240

### **Pathology Resident On-Call:**

**352-213-1201** (9am to 5pm Weekdays)

**352-213-6811** (5pm to 9am Weekdays, Weekends, and Holidays)

**Scope of Service:** The Histopathology Laboratory processes surgical specimens from inpatient and outpatient populations. Preparations are made for light microscopy, fluorescent antibody tests, and immunoperoxidase techniques using paraffin and frozen section techniques respectively. This laboratory also prepares microscopic sections from all autopsies performed at UF Health Shands Hospital.

The Histopathology Laboratory performs a wide variety of tests on tissue sections for demonstration of many organisms, substances and structures. These tests include the demonstration of bacteria, fungi, protozoans, and inclusion bodies; pigments and minerals; carbohydrates and mucoproteins; fats and lipids; nerve cells and fibers; hematologic and nuclear elements; cytoplasmic granules and connective tissue elements. The laboratory also performs test for enzymes including the phosphatases and esterases.

The turnaround time (TAT) for the Histopathology Laboratory is 1 to 5 days.

# Hematopathology Laboratory

UF Health Medical Lab – Rocky Point

**Hours of Operation:**  
**Monday to Friday 0730 AM to 0930 PM**  
**Saturdays 0800 AM to 0400 PM**

**Main Phone:** 352-265-0071  
**Fax:** 352-265-1063

**Manager:** Michael Passwater  
**Email:** [mpas0001@shands.ufl.edu](mailto:mpas0001@shands.ufl.edu)  
**Office Phone:** 252-917-2295

**Medical Director:** Robert Seifert, MD  
**Email:** [rseifert@ufl.edu](mailto:rseifert@ufl.edu)  
**Office Phone:** 352-627-2039

**Pathology Resident On-Call:**  
**352-213-1201** (9am to 5pm Weekdays)  
**352-213-6811** (5pm to 9am Weekdays, Weekends, and Holidays)

**Scope of Service:** The Hematopathology laboratory provides comprehensive diagnostic testing for hematologic malignancies using state-of-the-art technology including conventional microscopy, immunohistochemistry, flow cytometry, molecular genetic testing, cytogenetics and fluorescence in situ hybridization (FISH).

## Consultations Offered:

1. Comprehensive leukemia myelodysplasia or cytopenia evaluation.
2. Comprehensive lymphoma/lymphoproliferative evaluation.
3. Comprehensive plasma cell disorder evaluation.
4. Disease Monitoring.
5. Consultation on pathologic materials (slides).
6. Performance of specialized hematologic laboratory tests on blood, bone marrow, or other fluids.
7. CD34(+) stem/progenitor cell quantitation.
8. Immunophenotyping.

Expert pathologists are available 24/7 for a personalized service and consultation. Special arrangements must be made for off-hours and Sunday specimens. Diagnoses of diseases that require prompt management are routinely reported via telephone by one of the consulting physicians. Reports are faxed and original reports are sent by regular mail.

## STAT Requests:

- **During regular hours, call laboratory at 352-627-2101 and Customer Service at 352-265-0522 for rush pick-up and delivery to Rocky Point.**
- **After hours (5 PM to 9 AM Weekdays, Weekends, and Holidays), call the Pathology Resident on-call at 352-213-6811.**

**EACH SPECIMEN IS TO BE ACCOMPANIED BY A HEMATOPATHOLOGY REQUEST FORM (PS 105674: <https://bridge.ufhealth.org/shands-forms/hematopathology-request-form/>)**

**IF CYTOGENETIC EVALUATIONS ARE TO BE REQUESTED, REFER TO SPECIMEN REQUIREMENTS AND THE CONSULTATION REQUEST FORM HERE: <https://pathlabs.ufl.edu/specialties/consultation-service/>**

The UF Cytogenetics laboratory can be contacted at 352-265-9900.

Hematopathology Specimen Submission Guidelines		
Notify Laboratory staff when sending a rush specimen. Special arrangements must be made for specimens arriving during off-hours.		
Sample Type	Sample Requirements	Instructions
<b>Cytogenetic Analysis:</b> Peripheral blood, bone marrow aspirate, or fresh bone marrow biopsy. (Sent to UF Health Pathology Laboratories.)	<p><b>Tube type is green top (sodium heparin).</b></p> <p><u>Children and adults:</u> 5-7 mL of blood <b>or</b> 1-2 mL of bone marrow, <b>or</b> fresh, unfixed biopsy core, collected aseptically, in RPMI or similar culture medium or saline.</p> <p><u>Infants:</u> 2 mL of blood <b>or</b> 0.5-1 mL of bone marrow <b>or</b> fresh, unfixed biopsy core, collected aseptically, in RPMI or similar culture medium or saline.</p>	<p>Room temperature.</p> <p>If shipped, use cold pack. No dry ice. Do not put specimen directly against ice pack.</p>
<b>Peripheral Blood</b>	<p>1-2 tubes in <b>EDTA (lavender top)</b> and freshly prepared smear.</p> <p><b>Provide WBC and differential count results or order those tests.</b></p>	<p>Room temperature.</p> <p>If shipped, use cold pack. No dry ice. Do not put specimen directly against ice pack.</p>
<b>Bone Marrow Aspirate</b>	<p>3-5 mL in <b>EDTA (lavender top)</b> and freshly prepared smear.</p> <p><b>Provide WBC and differential count results or order those tests.</b></p>	<p>Room temperature.</p> <p>If shipped, use cold pack. No dry ice. Do not put specimen directly against ice pack.</p>
<b>Bone Marrow Biopsy</b>	Fresh, unfixed biopsy core in RPMI, similar culture medium, or saline.	<p>Room temperature.</p> <p>If shipped, use cold pack. No dry ice. Do not put specimen directly against ice pack.</p>
<b>Fine Needle Aspirate</b>	Collect in RPMI or similar culture medium and freshly prepared smear or cytology evaluation.	<p>Room temperature.</p> <p>If shipped, use cold pack. No dry ice. Do not put specimen directly against ice pack.</p>
<b>Fluids (CSF, pleural, etc.)</b>	<p>Collect in sterile container, tube, or bag.</p> <p>Do not use anticoagulant unless grossly contaminated with blood.</p>	<p>Room temperature.</p> <p>If shipped, use cold pack. No dry ice. Do not put specimen directly against ice pack.</p>
<b>Fresh Tissue (unfixed)</b>	<p>Keep moist in RPMI or saline at all times.</p> <p>Send a representative portion of the biopsy fixed in formalin, if available.</p>	Room temperature. If shipped, use cold pack. No dry ice. Do not put specimen directly against ice pack.
<b>Histology slides for consultation.</b>	Place slides in unbreakable container. Submit corresponding paraffin blocks.	Room temperature only.
<b>Lymphocyte Subset Enumeration</b>	Minimum 0.5 mL in <b>EDTA (lavender top).</b>	Room temperature. If shipped, use cold pack. No dry ice. Do not put specimen directly against ice pack.

# Transplant Laboratory

## UF Health Medical Lab – Rocky Point

**Hours of Availability: Monday to Sunday, 24 hours**

**Main Phone:** 352-265-0072

**Fax:** 352-265-0626

**After-Hours On-Call Technologist:** 352-258-3856

**Manager:** Michael Passwater  
**Email:** [mpas0001@shands.ufl.edu](mailto:mpas0001@shands.ufl.edu)  
**Office Phone:** 252-917-2295

**Medical Director:** Steven Goldstein, MD  
**Email:** [goldss@ufl.edu](mailto:goldss@ufl.edu)  
**Office Phone:** 352-627-2223

**Technical Coordinator:** Mai Ta  
**Email:** [tamh@shands.ufl.edu](mailto:tamh@shands.ufl.edu)  
**Office Phone:** 352-265-0072

**Associate Medical Director:** Gregory Olsen, MD  
**Email:** [golsen@ufl.edu](mailto:golsen@ufl.edu)  
**Office Phone:** 352-627-2030

**Pathology Resident On-Call:**  
**352-213-1201** (9am to 5pm Weekdays)  
**352-213-6811** (5pm to 9am Weekdays, Weekends, and Holidays)

**Scope of Service:** The Transplant Laboratory performs compatibility tests, transplant monitoring for bone marrow, kidney, pancreas, heart, lung, liver transplantation, and other immunological testing using the following methodologies: molecular, flow cytometric, and serologic. The tests offered are utilized according to the clinical application.

### Services Provided:

1. Solid Organ Transplant Evaluation for:
  - Heart, Liver, Kidney, Lung, Pancreas
2. Bone Marrow Transplant Evaluation
3. Other Immunological Evaluation:
  - Disease association (B27, DR15, etc.)
  - HLA typing for platelet transfusions.

### STAT Requests:

- **During regular hours, call laboratory at 352-265-0072 and Customer Service at 352-265-0522 for rush pick-up and delivery to Rocky Point.**
- **After hours, call on-call technologist at 352-258-3856.**

UF Health Shands Transplant Programs request all transplant-related testing. Please contact individual transplant program for any questions.

Type of Patient	Sample Requirements
Deceased Donor Workups	7 <b>ACD-A</b> tubes
HLA Typing	3 <b>ACD-A</b> tubes
HLA Antibody Testing	1 <b>SST</b> tube
Living Renal or Liver Donor Evaluation	5 <b>ACD-A</b> tubes
Crossmatch	1 <b>SST</b> tube
HLA Typing for Platelets	3 <b>ACD-A</b> tubes
Disease Association	1 <b>ACD-A</b> tube
Identity Confirmation, Post-Bone Marrow Transplant Engraftment, or GVHD Evaluation	1 <b>ACD-A</b> tube
HLA Typing Confirmation	2 <b>ACD-A</b> tubes

## Clinical Consultants

Medical Director	Department	Telephone	Fax
Julie Kingery, MD	CLIA Director – Shands Hospital, Medical Plaza, and Rocky Point Clinical Laboratory Support Center (CLSC)	352-999-4934	352-265-0447
Jesse Kresak, MD	Director of Anatomic Pathology	352-627-9253	352-627-9271
Clive Wasserfall, PhD	Point of Care (POC)	352-294-5540	352-265-0447
Neil Harris, MD	CLIA Director – Florida Surgical Center (FSC), Oaks Surgical Center (OSC), and ShandsCair Pensacola	352-594-4717	352-265-0447
Stacy Beal, MD	CLIA Director – SHED and KED	352-594-4952	352-265-0447
Maximo Marin, MD	Core Lab and Cancer Center Lab (CCL – Medical Plaza)	352-594-4953	352-265-0447
Danielle Petty, DO	Autopsy	352-273-5891	352-627-9271
Robert Seifert, MD	Hematopathology	352-627-2039	352-265-1063
Marie Rivera-Zengotita, MD	Surgical Pathology	352-672-9251	352-627-9271
Marino Leon, MD	Cytopathology	352-627-9260	352-627-9271
Sara Falzarano, MD, PhD	Immunohistochemistry (IHC)	352-627-9254	352-627-9271
Steven Goldstein, MD	Transplant (HLA)	352-627-2223	352-265-9901
Joanna Chaffin, MD	Histology	352-627-2052	352-627-9271
Peter Pelletier, MD	Blood Bank	352-594-0490	352-265-0447
Faisal Mukhtar, MD	Blood Bank	352-594-0487	352-265-0447
Gregory Olsen, MD	Blood Bank	352-627-2030	352-265-0447

### Pathology Resident On-Call:

**352-213-1201 (9 AM to 5 PM Weekdays)**

**352-213-6811 (5 PM to 9 AM Weekdays, Weekends, and Holidays)**