

SAINT FRANCIS HEALTH SYSTEM

LABORATORY SERVICES GUIDE

EFFECTIVE JUNE, 2011

**SAINT FRANCIS LABORATORY
6161 SOUTH YALE AVENUE
TULSA, OKLAHOMA 74136
PHONE: 918-494-1300
FAX: 918-494-1399**

**OUTREACH CUSTOMER SERVICE
PHONE: 918-494-1314
TOLL FREE: 1-877-549-0007
FAX: 918-502-4233**

SAINT FRANCIS OUTREACH LABORATORY
6161 SOUTH YALE
TULSA, OK 74136
918-494-1314
877-549-0007

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This guide was designed to provide information of laboratory services, tests, and procedures for physicians, nursing personnel, and healthcare providers using Saint Francis Hospital Laboratories. We hope it will be a valuable and convenient resource.

Every effort was made to provide current, accurate descriptions. Since laboratory technology and methodologies change periodically, the most accurate test reference ranges will appear on the patient report.

If you need additional information on services or specific test methodologies, please contact the appropriate department or supervisor for assistance.

INTRODUCTION

The clinical and anatomical laboratories at Saint Francis Hospital offer quality medical services using the latest technology for inpatients, outpatients, and corporate accounts. The main laboratory occupies 25,000 square feet on the first floor of Saint Francis Hospital on Yale in Tulsa with our genetics laboratory located on the 10th floor of the Warren Building. Over 1,000 different laboratory procedures are available with more than 8 million tests performed annually, with over 99% of all testing performed in-house. The department includes the traditional sections of both anatomic and clinical pathology, as well as special procedures in coagulation, flow cytometry, and histocompatibility.

ORGANIZATION

The laboratory is staffed 24 hours/day, 7 days/week by medical laboratory professionals. One third of staff members have specialty certifications or master of sciences degrees in their area of expertise. The department reports to the Executive Director of Patient Care Services. Current organizational structure includes an Administrative Director, Medical Director, and three Managers. Technical and Shift supervisors are designated by laboratory discipline.

Medical Staff

10 Board Certified Pathologists
1 Ph.D. Perinatal Pathologist / Clinical Scientist
1 Ph.D. Histocompatibility Clinical Scientist
4 Pathology Assistants
2 Ph.D. Genetics Clinical Scientists
1 Biochemical Geneticist

Technical/Support Staff

105 Medical Technologists/Technicians
10 Histologists/Cytotechnologist
79 Phlebotomists/Lab Techs
19 Support/LIS/QA/Management Staff
53 Clerks/Processors

LABORATORY CLINICAL DIRECTORS

Laura E. VanNewkirk, MD

Medical College of Pennsylvania School of Medicine (Magna Cum Laude)
Pennsylvania Hospital, University of Pennsylvania Health System, Pathology Residency
Board Certified: Anatomic and Clinical Pathology
Alpha Omega Alpha
Past President Oklahoma State Association of Pathologists, 2003-2004
Special Interest: Surgical pathology, Skin Immunofluorescence, Muscle Pathology, Transplant Pathology, Cytopathology, including fine needle aspiration.

Gregory P. Williams, MD

University of Oklahoma College of Medicine
Baylor University Medical Center, Pathology Residency
Board Certified: Anatomic and Clinical Pathology
Past President Oklahoma State Association of Pathologists, 1999-2000
Special Interests: Surgical Pathology, GYN Cytology, Transplant Pathology

Tamara L. Chaney, MD

University of Kansas, School of Medicine
Pennsylvania Hospital, University of Pennsylvania Health System, Pathology Residency
Board Certified: Anatomic and Clinical Pathology
Special Interests: Surgical Pathology, Immunohistochemistry, Molecular Biology, Transplant Pathology

Michael R. Harkey, MD

University of Oklahoma, School of Medicine
The Johns Hopkins Hospital, Pathology Residency
Board Certified: Anatomic Pathology
Alpha Omega Alpha

“Best Doctors”, 2004-2005, Tulsa (one of only two pathologists in Tulsa, OK, nominated by peers)
Special Interest: Surgical Pathology, with emphasis on breast, GYN pathology, and Cytopathology, including fine needle aspiration

Cynthia L. Holmes, MD

University of Oklahoma College of Medicine
Medical College of Virginia, Pathology Residency
Medical College of Virginia, Cytopathology Fellowship
Board Certified: Anatomic and Clinical Pathology and Cytopathology
Special Interests: Cytopathology, Hematopathology, Renal Pathology, Transfusion Medicine

Sarah K. Henry, MD

University of Missouri - Kansas City School of Medicine
Penrose - St. Francis, Pathology Residency
Oregon Health and Science University - Hematopathology Fellowship
Alpha Omega Alpha
Special Interests: Hematology, Flow Cytometry, Urinalysis

Sandra H. Clark, MD

University of Alabama School of Medicine
Baptist Medical Center, Birmingham, AL - Pathology Residency
University of Texas MD Anderson Cancer Center - Dermatopathology Fellowship, Surgical Pathology Fellowship
Board Certified in Anatomic and Clinical Pathology
Board Certified in Dermatopathology
Special Interests: Dermatopathology

Sigrid Wayne, MD

University of Iowa College of Medicine
National Institutes of Health Research Fellowship
University of Iowa Department of Otolaryngology Residency
University of Iowa Department of Pathology - Surgical Pathology Residency
University of Pittsburgh Department of Pathology - Head, Neck, and Endocrine Pathology Fellowship
Alpha Omega Alpha

Ashley Gable, MD

Baylor College of Medicine
Baylor College of Medicine - Anatomic and Clinical Pathology Residency
University of Texas MD Anderson Cancer Center - Surgical Pathology Fellowship
Harvard Medical School - Dermatopathology Fellowship
Board Certified Anatomic and Clinical Pathology
Alpha Omega Alpha

Robert Byrd, MD

University of Oklahoma College of Medicine
Dartmouth-Hitchcock Medical Center- Anatomic and Clinical Pathology Residency
Baylor College of Medicine (Texas Children’s Hospital) – Fellow in Pediatric Pathology
Board Certified Anatomic and Clinical Pathology
Board Certified Pediatric Pathology

Scott Hyde, PhD

University of Oklahoma, PhD Medical Sciences, with emphasis on immunology/infectious disease of reproductive systems

Perinatal pathology (placental examination with established embed and hold program)

Perinatal Autopsy Service

Frederick V. Schaefer, PhD

North Carolina State University

Fox Chase Cancer Center, Philadelphia, Post-Doctoral Fellowship

Board Certified: Clinical Molecular Genetics

Special Interests: Molecular Genetics

Nancy J. Carpenter, PhD

University of Michigan, Ann Arbor

University of Michigan, Post-Doctoral Scholar

Past-President American Board of Medical Genetics

Board Certified: Medical Genetics, Clinical Cytogenetics, Clinical Molecular Genetics

Special Interests: Cytogenetics, FISH

ACCREDITATION AND CERTIFICATION

Saint Francis Laboratories are accredited, licensed, and/or inspected by the following agencies:

Clinical Laboratory Improvement Amendments	CLIA #37D0474681
The Joint Commission	JC
College of American Pathologists	CAP #20502-01
American Society for Histocompatibility and Immunogenetics	ASHI #5-OK-03-1
United Network for Organ Sharing	UNOS #370091
Food and Drug Administration	FDA
Oklahoma State Department of Health	OSDH #3012
National Accrediting Agency for Clinical Laboratory Services	NAACLS
Foundation for the Accreditation of Cellular Therapy	FACT
Clinical and Laboratory Standards Institute	CLSI

PATHOLOGY MEDICAL STAFF

Laura Van Newkirk, M.D.	918-494-1324	Medical Director of Clinical and Anatomic Laboratories, Outreach Services, Immunology, Point of Care
Gregory P. Williams, M.D.	918-494-1332	Surgical Pathology
Michael Harkey, M.D.	918-494-1340	Director - Autopsy, Histology & IHC Laboratory
Cynthia Holmes, M.D.	918-494-1490	Cytology, Renal Pathology &, Hematopathology
Sandra Clark, M.D	918-494-1363	Dermatopathology
Sarah Henry, M.D	918-494-6511	Hematopathology, Hematology, Flow Cytometry, Urinalysis
Ashley Gable, MD	918-494-6986	Dermatopathology & Microbiology
Sigrid Wayne, M.D	918-494-1362	Director - Chemistry
Robert H. Byrd, M.D.		
Scott Hyde, Ph.D.	918-494-6562	Director - Perinatal Pathology Services
Ronald H. Kerman, Ph.D.	918-494-6569	Director – Histocompatibility

PATHOLOGY SUPPORT STAFF

Trisha Horn	918-494-1420	Pathology Office Supervisor
Leslie Conley, HT(ASCP)	918-494-1337	Histology Supervisor
Angela Record, HT(ASCP)	918-494-1321	Lead Immunohistochemistry

OUTREACH AND SUPPORT SERVICES

Customer Service	918-494-1314 or	
Toll free:	877-549-0007	7 days/24 hours
Fax:	918-502-4249	
Janet Ruttman, MT(ASCP)	918-502-4237	Outreach Supervisor (cell # 629-3328)
Wes Huber, MT(ASCP)	918-502-4236	Outreach Lead Tech
Glenda Carpenter / Janet Takecare	918-494-1314	Customer Service Representative
Susan Arenson, MT(ASCP)SH	918-494-6326	Laboratory System Analyst
Claudia Stephens, MT(ASCP)	918-494-6316	Support Services Supervisor
Meredith Butcher, MT(ASCP)BB	918-494-6369	Safety/QI/Education Coordinator
Diane Ketchelmeier	918-502-8608	Laboratory Client Billing

ADMINISTRATIVE STAFF

Dina Lawson, MS, MT(ASCP)	918-494-6343	Laboratory Director
Sara Hobbie, MT(ASCP), SM	918-494-6567	Technical Manager
Jay Hupp, MT(ASCP)SC	918-494-6547	Technical Manager
Greg Pearce, MT(ASCP)SC	918-494-1329	Technical Manager

TECHNICAL SUPERVISORS

Jay Hupp, MT(ASCP)SC	918-494-6547	Chemistry Supervisor
Jeri Dotson MPH, MT(ASCP)	918-494-2265	Point of Care Testing, Ancillary Lab Supervisor
Gary Eastburn, MT(ASCP)	918-494-6363	Transfusion Service Supervisor
Pat Boody, MT(ASCP)	918-494-6569	Immunology, Histocompatibility, Reference Lab Supervisor
Janet Selle, MT(ASCP)	918-494-6548	Flow Cytometry Lead Technologist
Sara Hobbie, MT(ASCP)SM	918-494-1322	Microbiology Supervisor
Sharon Cox, MT(ASCP)SC	918-494-1300	Core Lab Supervisor
Shelly Sisemore, MLT(ASCP)	918-494-1300	Core Lab Supervisor
Jason Boone, MT(ASCP)	918-494-1300	Core Lab Supervisor
Owen Biddle, MT(ASCP)	918-494-1300	Core Lab Supervisor
Lynne Whetsell, CLS (NCA)	918-502-1730	Genetics Center Supervisor

MAIN LABORATORY DEPARTMENTS

Chemistry	918-494-6571	7 days/24 hours
Hematology	918-494-6554	7 days/24 hours
Microbiology	918-494-1320	7 days/24 hours
Immunology	918-494-6536	M-F, 0700-1530
Transfusion Service	918-494-6544	7 days/24 hours
Surgical Pathology / Cytopathology	918-494-1420	M-F, 0730-1700; SAT, 0800-1200
Cytogenetics	918-502-1722	M-F, 0800-1730

CENTER FOR GENETIC TESTING AT SAINT FRANCIS HOSPITAL

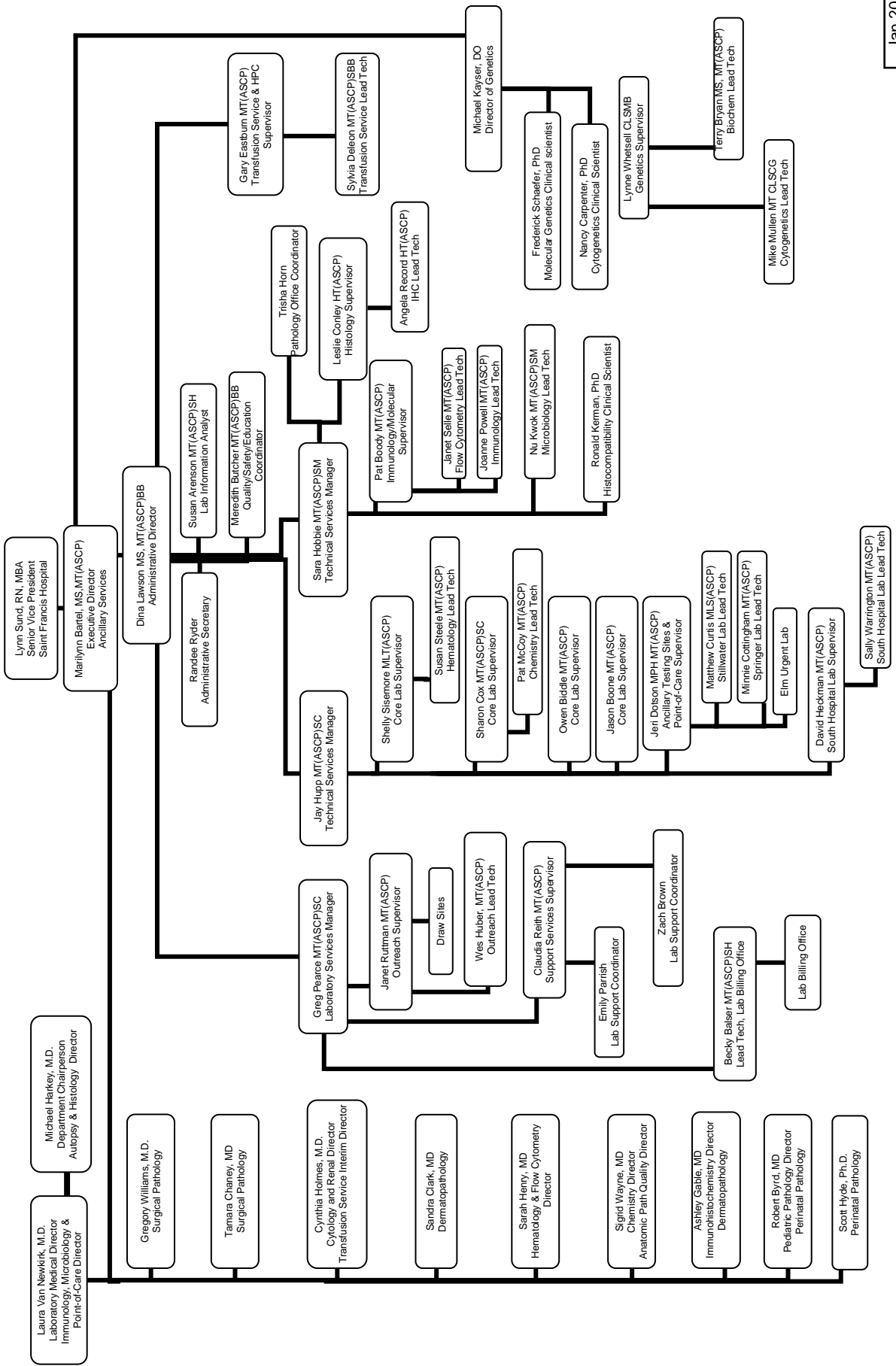
Lynne Whetsell, CLS(NCA)	918-502-1721	Lab Supervisor
Mike Mullen, MT(ASCP)	918-502-1722	Lead Technologist, Cytogenetics

SAINT FRANCIS HOSPITAL SOUTH LABORATORY

David Heckman, MT(ASCP)	918-307-6052	Lab Supervisor
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SAINT FRANCIS LABORATORIES

Clinical & Anatomic Laboratories



OUTREACH CUSTOMER SERVICE

Customer service is available 24 hours a day, 7 days a week at **918-494-1314**, or if outside the Tulsa area, toll-free at **877-549-0007**.

Information about Saint Francis Laboratory, including specimen requirements and the laboratory test menu, is located via any internet connection at www.saintfrancislaboratory.com. You may then choose from the following menu points for more specific laboratory information:

- SFH Laboratory Test Menu
- Patient Service Center Locations
- SFH Laboratory Information and Services Guide
- Laboratory Telephone Directory
- Technical Updates
- Policies and Procedures
- Medical Necessity NCD and LCD Trailblazer Documents

COURIER SERVICE

Courier service is available to clients for the transport of specimens to the laboratory. Pick-up times will be scheduled by location with the customer services representative. STAT pick-ups are available 24 hours a day.

TEST REQUISITIONS AND ORDERING

Laboratory services are available to requesting physicians for their patients by printed requisition, fax, or phone request. Written authorization of a phone request is requested within 30 days.

TEST AVAILABILITY AND REPORTING

Testing is performed continuously, 24 hours a day, with results available upon completion:

- Reports may be printed on a SFHS printer, if available, faxed, or delivered by courier as designated by the client.
- Results are available electronically via LabOnline, our web-based ordering and reporting system, at www.saintfrancislaboratory.com, and are also available in Ulticare
- Results of testing ordered as STAT will be autofaxed upon test completion.

Our laboratory does not routinely call all abnormal or all STAT results. Results will be called if:

- Test values are flagged as critical as defined by our Critical Results policy
- Test requisition specifies “CALL RESULTS” or “PAGE DOCTOR”, and includes the contact number.

BILLING SERVICES

Billing services are available by one of three options:

- Client Billing: A monthly statement itemizing charges by patient, date of service, and test is sent to the client.
- Patient Billing: When patient billing is preferred, patients are asked to pay at the time services are provided or provide insurance billing information.
- Third-Party Payor: Saint Francis Hospital will bill third party payors if indicated on the test requisition form and the necessary information is provided.

Billing needs and preferences should be discussed with the Laboratory Outreach Supervisor or Laboratory Services Manager at the time the account is established.

ADDITIONAL SERVICES

Additional services and support are available and may be provided upon request. Questions regarding services available, monthly billing, or test reports may be addressed to either of the following:

- Greg Pearce, Laboratory Services Manager 918-494-1329
- Janet Ruttman, Laboratory Outreach Supervisor 918-502-4237
- Wes Huber, Laboratory Outreach Lead 918-502-4236
- Jeri Dotson, POCT, Ancillary Lab Supervisor 918-494-2265
- Glenda Carpenter, Customer Service Representative 918-494-1314
- Janet Takecare, Customer Service Representative 918-494-1314
- Becky Balser, Laboratory Billing Lead 918-502-8604
- Diane Ketchelmeier, Laboratory Billing Specialist 918-502-8606

PATIENT SERVICE CENTER LOCATIONS

Saint Francis Laboratory has 16 conveniently located patient service centers in Northeast Oklahoma.

BROKEN ARROW

Broken Arrow Medical Bldg, Ste 115 2950 S. Elm Pl., Broken Arrow 74012	Phone: 918-449-4042 Fax: 918-449-4041	Mon – Fri 8:00 a.m. – 5:30 p.m.
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JENKS

Warren Clinic – Jenks 2605 W. Main St., Jenks 74037	Phone: 918-296-9670 Fax: 918-298-0716	Mon – Fri 8:00 a.m. – 5:00 p.m.
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OWASSO

Owasso Medical Office Bldg 13600 E. 86th St. N., Owasso 74055	Phone: 918-274-1114 Fax: 918-274-6669	Mon – Fri 7:00 a.m. – 5:30 p.m.
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STILLWATER

Warren Clinic – Stillwater 1815 W. 6th St., Stillwater 74074	Phone: 405-743-7326 Fax: 405-743-7235	Mon – Fri 8:00 a.m. – 7:00 p.m. Sat 9:00 a.m. – 5:00 p.m. Sun 1:00 p.m. – 5:00 p.m.
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TULSA

Warren Clinic Tower, Ste 310 6600 S. Yale Ave., Tulsa 74136	Phone: 918-502-7860 Fax: 918-502-7862	Mon – Fri 7:00 a.m. – 6:00 p.m.
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Warren Medical Building, Ste 112 6465 S. Yale Ave., Tulsa 74136	Phone: 918-502-1860 Fax: 918-502-1862	Mon – Fri 8:00 a.m. – 5:00 p.m.
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William Medical Building, Ste 405 6585 S. Yale Ave., Tulsa 74136	Phone: 918-502-4260 Fax: 918-502-4262	Mon – Fri 8:00 a.m. – 5:00 p.m.
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Kelly Medical Building, Ste 103 6565 S. Yale Ave., Tulsa 74136	Phone: 918-502-4230 Fax: 918-502-4233	Mon – Fri 8:00 a.m. – 5:00 p.m.
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Warren Clinic – Springer UC 6160 S. Yale Ave., Tulsa 74136	Phone: 918-497-3028 Fax: 918-497-3215	Mon – Fri 7:30 a.m. – 6:00 p.m. Sat 9:00 a.m. – 1:00 p.m.
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Warren Clinic – Springer 51st St 3910 E. 51 st St., Tulsa 74135	Phone: 918-497-3515 Fax: 918-497-3592	Mon – Fri 8:00 a.m. – 5:00 p.m.
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The Children’s Hospital at Saint Francis, Level AA 6161 S. Yale Ave., Tulsa 74136	Phone: 918-502-6713 Fax: 918-502-6722	Mon – Fri 7:00 a.m. – 5:00 p.m.
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Saint Francis Heart Hospital, Level A 6151 S. Yale Ave., Tulsa 74136	Phone: 918-502-2029 Fax: 918-502-2030	Mon – Fri 6:00 a.m. – 4:30 p.m.
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Saint Francis Hospital, 1st Floor 6161 S. Yale Ave., Tulsa 74136	Phone: 918-494-1300 Fax: 918-494-1399	24 hours / day, 7 days / week
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Saint Francis South Cardinal Bldg – 1 st Floor 10501 E. 91st St., Tulsa 74133	Phone: 918-307-6491 Fax: 918-307-6191	Mon – Fri 8:00 a.m. – 5:30 p.m.
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Warren Clinic – Memorial South 8414 E. 101st St., Tulsa 74133	Phone: 918-369-8188 Fax: 918-369-8194	Mon – Fri 8:00 a.m. – 5:30 p.m.
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Warren Clinic – Interchange Plaza 3218 S. 79th E. Ave, Tulsa 74145	Phone: 918-663-7300 Fax: 918-664-6040	Mon – Fri 8:00 a.m. – 5:00 p.m.
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VINITA

Warren Clinic - Vinita 803 N Foreman, Vinita 74301	Phone: 256-8731 ext. 1134 Fax: 918-296-5504	Mon – Fri 8:00 a.m. – 4:30 p.m.
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TEST REQUISITIONS AND ORDERING

Minimum information required on the laboratory requisition includes:

- Client name, address, phone and fax numbers (pre-printed forms are available)
- Patient's first and last name; no nicknames or abbreviations
- Patient's sex and date of birth
- Requesting physician's full name
- Testing to be performed
- Source of specimen, if other than blood
- Other pertinent patient information related to the test, as necessary
- Date and time of specimen collection
- Collector ID

If a third party is to be billed:

- Patient's address and phone number
- Copy of patient's insurance card (front and back)

SPECIMEN IDENTIFICATION AND PROCESSING

All specimens should be properly identified and labeled to be accepted for testing. Each specimen should be accompanied by a completed laboratory requisition or Ulticare-generated labels.

Label all specimens with the following information:

- Patient's first and last name, as provided on the laboratory requisition
- Date and time of specimen collection
- Collector ID

Most blood specimens require processing within two hours. For further information, contact the laboratory.

For transport, specimens should be placed in a zip-lock specimen bag labeled as biohazard. Bags will be provided for your use.

LABORATORY TESTS

Laboratory services are available to requesting physicians for their patients through multiple pathways.

- Inpatients** Physician orders for clinical laboratory tests are entered directly into Ulticare.
- Pathology** Requests for Anatomic Pathology services are not available through Ulticare. Specimens must be delivered to the laboratory with a legibly completed Surgical Pathology Requisition. Pre-operative diagnosis or pertinent clinical history is requested to assure accurate reporting. Cytology tests are ordered in Ulticare.
- Outpatients** Physician orders must be clearly transcribed on laboratory order requisitions or a prescription form. Information required for patient registration will be obtained upon arrival at the hospital or laboratory. The physician's office may contact the laboratory directly to leave verbal orders. Written authorization is requested within 30 days.
- Clients** Patient, test, and billing information is crucial when performing laboratory tests on patients outside the hospital. Please refer to the Client Services Guide for specific information or contact Customer Service Representative at 918-494-1300 (Hospital) or 918-494-1314 (Outreach).

ORDERING INFORMATION

Electronic ordering for Outreach clients is available online at www.saintfrancislab.com.
Electronic ordering of laboratory tests is available on all nursing units of the hospital through Ulticare.

Laboratory requisition forms are available for locations and services not interfaced to the Hospital Information System or if the computer is not available.

Patient Information

Minimum patient information required for laboratory testing includes:

- Patient first and last name; no nicknames or abbreviations
- Patient sex and age/date of birth
- Requesting physician
- Requesting location
- Pertinent patient information related to the test

Saint Francis Hospital Patient Only

- Hospital Visit Number
- Medical Record Number if Transfusion Service or Pathology is requested

Patient demographic information is included in Ulticare and on Ulticare labels. If using a paper requisition, the patient information should be provided in the upper right hand corner of the requisition by use of a computer label, legibly imprinted addressograph stamp, or clearly printed, handwritten information.

REQUISITIONS



Saint Francis Hospital
6161 South Yale Avenue • Tulsa, OK 74136
(918) 494-1300 Phone • (918) 494-1399 Fax

Saint Francis Hospital at Broken Arrow
3000 South Elm Place • Broken Arrow, OK 74012
(918) 455-3535 Phone • (918) 451-5285 Fax

LABORATORY TEST REQUISITION

SAP 10043290 front / 11-05

Please Attach a Copy of All Insurance I.D. Cards (front and back)

BILL TO:
 Client (Lab Direct Billing) Medicaid
 Medicare Primary Insurance (or other 3rd party)
 Medicare Secondary Patient (Self Pay)

ACCOUNT NAME

PATIENT NAME (LAST, FIRST, MIDDLE) _____ SEX M F DATE OF BIRTH _____ SOCIAL SECURITY NUMBER _____

STREET ADDRESS, CITY, STATE, ZIP CODE _____ TELEPHONE NUMBER _____

REQUESTING PHYSICIAN NAME (LAST, FIRST) _____ REPORT COPY TO PHYSICIAN(S) _____ FAX NUMBER _____

RESULTS STAT PHONE FAX COLLECTION DATE _____ TIME _____ COLLECTED BY _____ 24 HOUR URINE TOTAL VOLUME _____

PRIMARY INSURANCE _____ POLICY # / MEMBER ID / MEDICARE / MEDICAID # _____ INSURED NAME / RELATIONSHIP TO PATIENT _____ GROUP NUMBER _____

INSURANCE ADDRESS, CITY, STATE, ZIP CODE _____ SECONDARY INSURANCE _____ POLICY # / MEMBER ID / MEDICARE / MEDICAID # _____

DIAGNOSIS OR ICD9 CODE(S) FOR TESTS ORDERED (MUST BE PROVIDED)						FOR LAB USE ONLY
1	2	3	4	5	6	
<p>NOTICE TO PHYSICIANS: When ordering tests for which Medicare reimbursement will be sought, only order tests that are medically necessary for the diagnosis or treatment of a patient.</p> <p>Medicare Limited Coverage Tests: Medicare limited coverage tests (shaded) may require an Advance Beneficiary Notice from the patient. If you expect that Medicare will not pay for a lab test ordered, please ask the patient to sign an ABN.</p>						

TESTS / PANELS (Preapproved Criteria May Initiate Additional Testing - See Reflex Tests on Back Page)

CPT	DX	✓	LAB SERVICES	CPT	DX	✓	LAB SERVICES	CPT	DX	✓	LAB SERVICES
80048			Basic Metabolic Panel (Chem 8)	82947			Glucose				MICROBIOLOGY
80053			Comp. Metabolic Panel (Chem 14)	83036			Glycohemoglobin (Hgb A1C)				Cultures may include additional testing if positive for growth :
80051			Electrolytes	82977			GT				87077 Organism ID
80061			Lipid Panel	86677			H. Pylori Antibody				87186 Sensitivity
80076			Liver Panel (Hepatic Panel)	84703			HCG, serum (Qualitative)				SOURCE
80069			Renal Panel	84702			HCG, Quantitative				87116, 87206
				85027			Hemogram with Plt.				Acid Fast Culture with AF smear
80074			Hepatitis Panel (Acute)	86703			HIV Ab*	87324			C. Difficile Toxin
86709			<input type="checkbox"/> Hep A IgM Ab	83540			Iron	87491			Chlamydia Amplification
86705			<input type="checkbox"/> Hep B Core IgM Ab	83960			Lipase	87491, 87591			Chlamydia / GC Amplification
87340			<input type="checkbox"/> Hep B Surface Ag*	83735			Magnesium	87102			Fungus Culture
86803			<input type="checkbox"/> Hep C Ab*	82043, 82565			Microalb/Creat Ratio, random urine	87070			Routine Culture
				86403			Mono Test	87070, 87205			Routine Culture with Gram Stain
86900, 86901			ABO & RH*	82270			Occult Blood x 3	87045			Stool Culture
86850			Antibody Screen*	G0107			Occult Blood - Screen (Medicare only)	87430			Strep A Screen
82150			Amylase	84100			Phosphorus	87070			Throat Culture
86038			ANA, with titer if indicated	84132			Potassium	87066			Urine Culture
83520			BNP (B-type Natriuretic Peptide)	84146			Prolactin	87252			Viral Culture
84520			BUN	84165			Protein Elect Screen (SPEP)				
82310			Calcium	84155			Protein, Total				
86141			Cardio CRP	85610			Protime with INR				
85025			CBC with Plt. & Diff.	84153			PSA				
82465			Cholesterol	G0103			PSA - Screening (Medicare only)				
82550, 84484			CK and Troponin	85730			PTI, activated				
82550			CK, Total	86431			Rheumatoid Factor				
82533			Cortisol	86592			RPR*				
82665			Creatinine	85661			Sed Rate (ESR)				
82575			Creatinine Clearance	84439			T4, Free (Thyroxine)				
86140			CRP	84403			Testosterone				
80158			Cyclosporin	84466			Transferrin				
80162			Digoxin	84484			Troponin				
82728			Ferritin	84478			Triglycerides				
80197			FK 506 (Prograf)	84443			TSH				
82746			Folate	81001			Urinalysis				
83001			FSH	81001			Urinalysis, culture if indicated*				
82950			Glucose 1 hour pc	82607			Vitamin B12				

REFLEX TESTING
 *Preapproved Criteria May Initiate Additional Testing (See back page)

WHITE - LABORATORY CANARY - BUSINESS FILE PINK - CLIENT

REFLEX TESTING

87340	Hepatitis B Surface Ag if positive - 87341 Hepatitis B Confirmation	86703	HIV Ab if reactive - 86689 HIV Western Blot
86803	Hepatitis C Ab if positive - 86804 HCV RIBA		
86900, 86901	ABO and RH typing discrepancy may require additional testing (CPT varies)	86592	RPR if reactive - 86781 FTA absorbance
86850	Antibody Screen if positive, antibody identification (CPT varies)	81001	Urinalysis, Culture if indicated per criteria - 87086 Urine Culture

PANEL DESCRIPTIONS AND BILLING INFORMATION

Electrolyte Panel	Chem 8 Panel (Basic Metabolic Panel)	Liver Panel (Hepatic Function)	Renal Panel	Lipid Panel	Chem 14 Panel (Comprehensive Metabolic)
Sodium (Na) Potassium (K) Chloride (Cl) Carbon Dioxide	Sodium (Na) Potassium (K) Chloride (Cl) Carbon Dioxide Glucose Urea Nitrogen (BUN) Creatinine Calcium	Albumin AST (GOT) ALT (GPT) Alkaline Phos Bilirubin, Total Bilirubin, Direct Protein, Total	Sodium (Na) Potassium (K) Chloride (C) Carbon Dioxide Creatinine Glucose Urea Nitrogen (BUN) Calcium Albumin Phosphorus	Triglyceride Cholesterol, Total Cholesterol, HDL Cholesterol, LDL (Calculated)	Sodium (Na) Potassium (K) Chloride (Cl) Carbon Dioxide Creatinine Glucose Urea Nitrogen (BUN) Calcium Albumin Protein, Total Alkaline Phos AST (GOT) Bilirubin, Total ALT (GPT)
CPT: 80051	CPT: 80048	CPT: 80076	CPT: 80069	CPT: 80061	CPT: 80053

"Medicare Primary" indicates that Medicare Secondary Payor information is on file and that Medicare should be billed.



Saint Francis Hospital
 6161 South Yale Avenue • Tulsa, OK 74136
 (918) 494-1300 Phone • (918) 494-1399 Fax

Saint Francis Hospital at Broken Arrow
 3000 South Elm Place • Broken Arrow, OK 74012
 (918) 455-3535 Phone • (918) 451-5285 Fax

LABORATORY TEST REQUISITION

SAP 10043291 front / 11-05

Please Attach a Copy of All Insurance I.D. Cards (front and back)

ACCOUNT NAME

BILL TO: Client (Lab Direct Billing) Medicaid
 Medicare Primary Insurance (or other 3rd party)
 Medicare Secondary Patient (Self Pay)

PATIENT NAME (LAST, FIRST, MIDDLE)			SEX <input type="checkbox"/> M <input type="checkbox"/> F	DATE OF BIRTH	SOCIAL SECURITY NUMBER	
STREET ADDRESS, CITY, STATE, ZIP CODE					TELEPHONE NUMBER	
REQUESTING PHYSICIAN NAME (LAST, FIRST)			REPORT COPY TO PHYSICIAN(S):		FAX NUMBER	
RESULTS <input type="checkbox"/> STAT	PHONE <input type="checkbox"/>	FAX <input type="checkbox"/>	COLLECTION DATE	TIME	COLLECTED BY	24 HOUR URINE TOTAL VOLUME
PRIMARY INSURANCE		POLICY # / MEMBER ID / MEDICARE / MEDICAID #		INSURED NAME / RELATIONSHIP TO PATIENT		GROUP NUMBER
INSURANCE ADDRESS, CITY, STATE, ZIP CODE			SECONDARY INSURANCE		POLICY # / MEMBER ID / MEDICARE / MEDICAID #	

DIAGNOSIS OR ICD9 CODE(S) FOR TESTS ORDERED (MUST BE PROVIDED)						FOR LAB USE ONLY
1	2	3	4	5	6	
<p>NOTICE TO PHYSICIANS: When ordering tests for which Medicare reimbursement will be sought, only order tests that are medically necessary for the diagnosis or treatment of a patient.</p> <p>Medicare Limited Coverage Tests: Medicare limited coverage tests (shaded) may require an Advance Beneficiary Notice from the patient. If you expect that Medicare will not pay for a lab test ordered, please ask the patient to sign an ABN.</p>						
TESTS / PANELS (Preapproved Criteria May Initiate Additional Testing - See Reflex Tests on Back Page)						

WHITE - LABORATORY CANARY - BUSINESS FILE PINK - CLIENT

REFLEX TESTING

87340	Hepatitis B Surface Ag if positive - 87341 Hepatitis B Confirmation	86703	HIV Ab if reactive - 86689 HIV Western Blot
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CPT: 80051	CPT: 80048	CPT: 80076	CPT: 80069	CPT: 80061	CPT: 80053

"Medicare Primary" indicates that Medicare Secondary Payor information is on file and that Medicare should be billed.

Collection Information

The collection date is required when ordering laboratory tests. Collection time is needed if the test priority is TIMED or if the specimen is not collected by laboratory personnel.

Specimens are collected and tested based on the time ordered and the draw/result priorities indicated in Ulticare. Select the priority indicated by the physician's orders.

Ulticare – Nursing Frequencies and Laboratory Priorities

Laboratory Frequencies on Nursing Typical Order Screens	Laboratory Priorities	Phlebotomy Collection Time
Now ASAP	ASAP	1 hr
Now STAT	STAT	30 min
Timed @ _____	Timed	± 15 min
Today	Routine	4 hr
Tonight	Routine	4 hr
Tomorrow AM	Routine @ 0700	2-4 hr
Early AM Today	Timed @ 0455	± 1 hr
Early AM Tomorrow	Timed @ 0455	± 1 hr
Results by 0600	Timed @ 0355	± 1 hr
Results by 0700	Timed @ 0455	± 1 hr
Results by 0800	Timed @ 0555	± 1 hr
Results by 0900	Timed @ 0655	± 1 hr

Nursing Frequencies NOT Available for Laboratory Orders

Next Available

PRN

Unscheduled

One Time

Misc

Conditional Orders (not available until nursing documentation is implemented)

Test Information

Select the test(s) or profile ordered by the physician. They are arranged in alphabetical order. Indicate the source of the specimen, if other than blood.

Enter any comment that is important for the laboratory to know such as "Call Results" by probing "Order Comment". Prompts will appear when additional information is required on certain tests such as microbiology cultures, blood gases, therapeutic drug monitoring, or requests for blood products. Please complete all requested information.

If using a paper requisition, clearly mark the request next to the tests desired. Indicate the diagnosis code corresponding to the test.

ADD-ON TESTING (BLOOD IN LAB)

Additional tests may be ordered on a previously collected specimen if the quality and quantity of the specimen is acceptable.

When additional testing is requested on specimens already in the laboratory, contact the laboratory office (918-494-1300). Your call will be directed to the appropriate department to determine if the requested test can be performed. If the specimen is acceptable, inform the technologist that a new order will be placed. Enter the new order along with the Order Comment, "Blood in Lab", immediately. Do not print a label or document collection when the order is entered.

If you wish to add tests to an outpatient or client specimen, call 918-494-1314 for assistance.

TEST DISCONTINUE AND CREDIT PROCEDURE

If a previously ordered test is discontinued prior to collection, please call if the collection time is imminent. Events with a "scheduled" status should be discontinued by Nursing. Events with an "in progress" status must be cancelled by laboratory personnel.

If results have been reported for the test, complete an incident report, including the reason for cancellation, and send it to the laboratory for the report to be corrected and the patient credited.

THERAPEUTIC DRUG MONITORING ORDERS

Therapeutic drugs that require dose related monitoring (Vancomycin, Amikacin, Gentamicin, Tobramycin) should be ordered and collected according to the following guidelines unless another protocol is specified by the physician.

Enter a timed order for the collection time of both trough and peak levels. Initial peak levels should be collected after the third dose of the drug. Trough drug levels are drawn 0-30 minutes prior to the designated dose.

Specific Drug Guidelines

Vancomycin: 60 minutes after dose is stopped

Amikacin

Gentamicin

Tobramycin:

I.V. (intravenous) 30 minutes after dose is stopped

I.M. (intramuscular) 60 minutes after dose is injected

All NICU collections: 60 minutes after dose

Phlebotomy will contact the nurse in charge of the patient 15 to 30 minutes prior to the scheduled time of peak collection to determine if either the start or stop times have changed. If the drug level is to be drawn by non-laboratory personnel (I.V., nurse draws, etc.), Phlebotomy will send preprinted labels to the nursing unit or I.V. nurse via the computerized tube system.

TESTS REQUIRING ADVANCE SCHEDULING

Advance scheduling is requested for the following tests. Please contact the department listed to schedule the procedure.

<u>TEST</u>	<u>CONTACT DEPARTMENT</u>	<u>EXT</u>
ACTH Stimulation (Outpatient)	Health Care Coordination	16538
Bone Marrow Aspiration and Biopsy	Hematology	16554
Bone Marrow Transplant	Transfusion Service	16544
Cortisol Stimulation (Outpatient)	Health Care Coordination	16538
Glucose Tolerance (Outpatient)	Health Care Coordination	16538
HLA Tissue Typing and Crossmatch	Histocompatibility	16569
Inpatient Directed Donor	Transfusion Service	16544
Stem Cell Collection/Reinfusion	Transfusion Service	16544
Sweat Chloride Test	Chemistry	16574
Sweat Chloride Test (Outpatient)	Health Care Coordination	16538

USE OF REFERENCE LABORATORIES

Requests for specimens to be submitted to an outside reference laboratory are processed through the hospital laboratory and referred as needed.

The laboratory refers specimens for test procedures not available on site to licensed/accredited reference laboratories. The name and location of the laboratory performing the analysis is indicated on the laboratory report.

Some reference testing requires special handling. In order to avoid compromising specimen quality when a reference test is ordered, please refer to specific collection information in test section of this guide. If information is not provided, contact the Laboratory Reference Coordinator, Monday through Friday, 7:30 AM to 4:00 PM, ext. 16574, for any special instructions before ordering the test.

SPECIMEN PROCESSING INSTRUCTIONS

Specimen Required	Tubes to Draw	Testing Department
Whole Blood	Lavender, Pink, Blue, Dark Green, Light Yellow	Hematology, Chemistry, Reference, Blood Bank, HLA
Serum	Red, Gold, Tiger	Chemistry, Immunology, Reference
Plasma	Blue, Light Green, Dark Green, Pink	Hematology, Chemistry, Reference, Blood Bank

On-Site Processing Instructions

CBC	Stable at room temp up to 24hr.
Protime	Stable at room temp up to 24 hr. Centrifuge and freeze plasma if it will be more than 24 hr. until testing.
Sed Rate (ESR)	Should be processed within 4 hours of collection.
UA/Urine Cultures	Store in refrigerator up to 24 hr.
Chemistry/Immunology (Separator Tubes)	Centrifuge 10 minutes and refrigerate collection tube.
Chemistry/Immunology (Red Top Tubes)	Allow to clot. Centrifuge collection tube for 10 minutes, remove serum, place in aliquot tube and refrigerate.
Microbiology	Stable in micro specimen transport container.
Special Tests	Follow instructions in test guide or call Main Lab at 918-494-1300.

Remote Collection Location Processing Instructions

CBC	Stable at room temp up to 24hr.
Protime	Stable at room temp up to 24 hr. Centrifuge and freeze plasma if it will be more than 24 hr. until testing.
Sed Rate (ESR)	Should be processed within 4 hours of collection.
UA/Urine Cultures	Store in refrigerator up to 24 hr.
Chemistry/Immunology (Separator Tubes)	Centrifuge 10 minutes.
Chemistry/Immunology (Red Top Tubes)	Centrifuge collection tube for 10 minutes, remove serum, place in aliquot tube and refrigerate.
Microbiology	Stable in micro specimen transport container.
Special Tests	Follow instructions in test guide or call Main Lab at 918-494-1300.

SPECIMEN COLLECTION

All specimens should be properly collected and correctly labeled in order to be accepted for testing in the laboratory.

"The lab test result is no better than the specimen and the specimen is no better than the manner in which it was collected."

PATIENT IDENTIFICATION

All hospital patients need to have a legible patient identification bracelet attached to an extremity prior to collection of all laboratory specimens. A bracelet should remain on the patient throughout the hospital stay.

Nursing personnel should examine the patient identification bracelet when the patient is admitted to his/her room and upon transfer from another location.

The patient should have a new bracelet applied (and the old bracelet removed) whenever there is a change in case number or medical record number (i.e., transfer from other institutions, SNFU, Organ Donor).

If the patient is not wearing a patient identification bracelet, prepare a bracelet containing patient last name, first name, hospital case number, and medical record number within one hour of arrival.

Ask the patient to state his/her name and examine bracelet prior to placement on the patient's arm or leg in order to verify the accuracy of the identifying information.

If the patient is unable to communicate and is accompanied by a responsible person, ask this person to confirm identification information.

Nursing personnel should check the patient's bracelet periodically to determine its presence and to determine if it has become illegible or restrictive.

If a new bracelet needs to be applied, the person replacing the bracelet must make sure the information on the new bracelet is accurate. **The old bracelet should not be removed until a new one is in place.**

In the Outreach setting (physician's office or draw station), ask the patient to state his/her name and date of birth. Verify this information with the requisition and/or labels before collecting any specimens.

BLOOD SPECIMEN TERMS

Testing can be performed on specimens that are whole blood, serum or plasma.

Whole Blood – Blood collected in anticoagulant that is not centrifuged.

Clotted – Blood collected in tubes without anticoagulant will clot. When a specimen clots, the red cells form a mass. The specimen can then be centrifuged and the clot separated from the serum.

Serum – the clear liquid portion of a centrifuged blood specimen collected without anticoagulant. Specimens must clot for a minimum of 5 minutes prior to centrifuging.

Plasma – the clear portion of a centrifuged specimen collected in anticoagulant. These may be centrifuged immediately. The main difference between serum and plasma is that serum lacks fibrinogen, which is used up in the clotting process.

Frozen – if instructions specify freezing, the sample may be frozen.

- Serum or plasma must be removed from the cells before freezing and put in an aliquot tube.
- DO NOT freeze whole blood, or plasma/serum samples containing red cells. Freezing causes the red cells to burst and the specimen is unusable.

Aliquot Tube – serum or plasma is separated from the collection tube and poured off into an aliquot tube for storage.

Anticoagulant - An additive that prevents the specimen from clotting

- EDTA (purple, lavender, pink, pearl) – prevents clotting by binding calcium
- Sodium Citrate (blue) – prevents clotting by binding calcium
- Lithium Heparin (light green) – prevents clotting by inhibiting the formation of thrombin
- Sodium Heparin (dark green) – prevents clotting by inhibiting the formation of thrombin
- ACD (light yellow)

Serum Separator – a gel that undergoes a temporary change in viscosity (thickness) during the process of centrifugation that is located at the bottom of the tube. During centrifugation, the gel forms a barrier between the serum and the cells, preventing contamination of the serum with cellular materials.

Hemolyzed - hemolysis is detected by the presence of pink or red plasma or serum. Rupture of the red blood cell membrane releases cellular contents into the serum or plasma and interferes with many test results. Hemolysis often requires the specimen to be recollected.

Lipemic – The specimen may be cloudy or milky due to fats, or chylomicrons, in the serum or plasma.

BLOOD COLLECTION TUBES

Guide to Evacuated Tubes Used for Blood Collection

A number of tests have special tube requirements and handling conditions. Some of the more common ones are listed below. See "Alphabetical Test Information" for a complete listing of individual blood tube requirements.

<u>Tube Top Color</u>	<u>Additive</u>	<u>General Usage</u>
Pink	EDTA	Transfusion Service
Purple/Lavender/Pearl	EDTA	Hematology/Special Tests
Blue	Sodium Citrate	Coagulation Tests
Green	Lithium Heparin	Chemistry, Special Tests
Green	Sodium Heparin	Special Tests
Gold	Inert Barrier Gel & Clot Activator	Chemistry, Immunology
Red	Clot Activator	Immunology, Chemistry, Special Tests
Yellow	Acid Citrate Dextrose	Histocompatibility

Microtainers (bullets) are used to collect specimens from difficult to draw patients, and neonatal or pediatric blood specimens less than 2 ml.

SPECIMEN IDENTIFICATION AND LABELING

Accurate identification and labeling of the specimen requires diligence and care to avoid errors that could have serious consequences to patient care.

1. Patient identity must be confirmed by the person collecting the specimen. **DO NOT COLLECT LABORATORY SPECIMENS FROM A PATIENT WITHOUT PROPER IDENTIFICATION.**
2. All laboratory specimens should be labeled in the patient's room at the time of collection.

3. Label each specimen with a computer-generated or addressograph label containing the following information:

Patient first and last name

Patient identification number (specimen number, case number, or Medical Record Number for Transfusion Service and Pathology; DOB is acceptable for specimens collected at physician offices or from Outreach patients)

Room number or location (not required for Transfusion Service)

Date and time of specimen collection

Collector identification

If a preprinted label is not available, print the following information:

Patient first and last name

Patient identification number (if hospital patient)

DOB (Outreach patients)

Date and time of specimen collection

Collector identification

4. Specimens must be accompanied by a legibly completed laboratory requisition or computer specimen labels.
5. Patient information on the specimen must match the laboratory requisition or labels.
6. Any discrepancy in patient information for pretransfusion testing will require recollection of the specimen.
7. Due to the amount of space available for writing, an exception to this policy will be made for blood, tissues, and body fluid smears on glass slides. These may be labeled with an aliquot label or with the first and last name of the patient, date of collection, and either the room number, case number, or specimen number using a waterproof marker or pencil if the slide is frosted.
8. If additional labels are added to the specimen, the original label should not be removed and pertinent patient information should not be obscured.
9. If the specimen is transferred from the original container to another container, the new container must be identified with a patient label or permanent marker prior to transferring the specimen.
10. When specimens arrive in the laboratory that are not labeled according to policy, the responsible individual may be asked to come to the laboratory to complete labeling of the specimen.
11. Outreach patients may be allowed to sign a mislabeled specimen form if the specimen is accompanied only with the requisition.

LABELING BLOOD COLLECTION TUBES

Patient information must be placed on each specimen.

The choice of label is dependent upon the size tube collected.

A laboratory computer label is the preferred form of specimen identification. An addressograph label may be used if legible with all information contained completely within the label.

Vacutainer Tube Options:

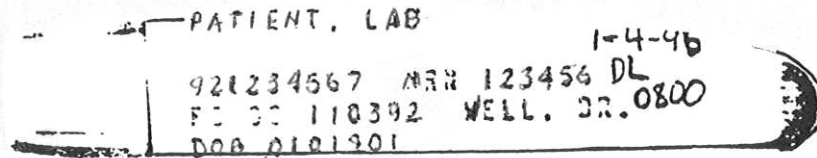
Large Computer Barcode Label

Place the large barcode label vertically over the existing Vacutainer label with patient name at stopper end of the tube; start label at edge of gel, if gold top. Indicate Collector I.D. and collection time in the blank area of computer label (DO NOT WRITE ON BARCODE OR IN THE SPACE TO THE RIGHT OF THE BARCODE).



Addressograph Label

Place label vertically over the Vacutainer label with patient name at stopper end of the tube. Indicate Collector I.D., date and time on addressograph label.



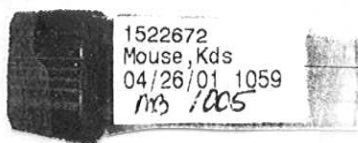
When a label is not available, required patient and collector information may be hand-printed on tube label.

Microtainer Tube (Bullet) Options:

Smallest Computer Aliquot Label (no barcode)

Place the smallest aliquot label vertically on the Microtainer with patient name at the cap end of the tube. Indicate Collector I.D. and collection time on aliquot label. If the Microtainer is a purple top, attach an extender to the bottom of the tube and apply a large barcode label.

Option #1

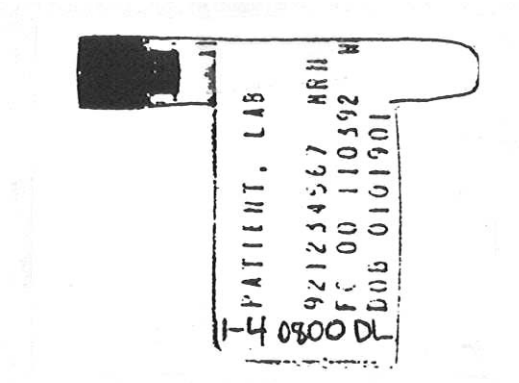


Option #2 (with extender)



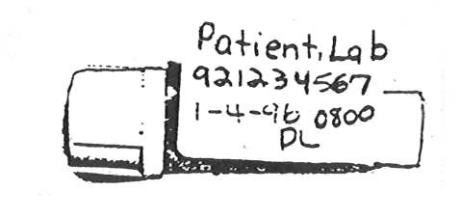
Addressograph Label

Wrap label horizontally around Microtainer with the patient name at the cap end of the tube. Please use one addressograph label per container. Indicate Collector I.D., date, and time on addressograph label.



Blank Aliquot Label

When a label is not available, the required patient information may be hand-printed on a blank label. Place the label vertically on the Microtainer with patient name at the cap end of the tube. Indicate Collector I.D., date, and time on aliquot label. **DO NOT LABEL THE MICROTAINER DIRECTLY WITH A MARKER; IT CANNOT BE READ.**



Reminders

Place labels vertically over the existing Vacutainer tube label (gold top tubes - start label at edge of gel).

Indicate the time of collection and collector identification in an open area on the label (do not write on the barcode or in the space to the right of the barcode).

DO NOT flag or spiral label around the tube.

DO NOT place the label on the tube cap.

DO NOT throw away labels. Return any extra labels to the laboratory.

CRITERIA FOR SPECIMEN REJECTION

Proper specimen collection, identification, and handling are an essential part of obtaining valid laboratory test results.

All test requisitions and specimens delivered to the laboratory should meet defined criteria for identification, collection, volume, and testing in order to be processed.

If any criterion is not met, the nursing unit, attending physician, or referral laboratory will be notified immediately so that corrective action can be taken.

Inadequately Labeled Specimens

Unlabeled - A specimen is treated as unlabeled if the container holding the specimen (evacuated tube, urine bottle, syringe, specimen jar, etc.) does not have the patient's last and first names and patient identification number directly affixed to it.

Mislabeled - A specimen is mislabeled if its patient identification differs from the patient identification on the requisition or label associated with it. If a specimen consists of multiple containers (for example, different tube types) and only one or some of the container labels match the associated requisition(s) or label(s), the laboratory is unable to determine which of the labels is correct and all containers must be treated as mislabeled.

Incompletely Labeled - The patient's first name, last name, and the identification number are the minimum acceptable patient identification data required on the specimen. Date and time of collection and collector ID are requested. Listed are some of the errors encountered:

- No patient identification number (hospital patient)
- Shortened name (James to Jim, etc.)
- Wrong case number, sex, spelling of name

Inadequate Orders

Insufficient information is provided on the requisition. For example, one or more of the following may be missing:

- Patient identification (name and number)
- Physician's name
- Time and date of collection
- Name of person who collected specimen
- Test requested
- Specimen source if other than blood
- Scheduled time of dose (tobramycin, gentamicin, vancomycin, amikacin)

Unsatisfactory or Suboptimal Specimens

A specimen is unsatisfactory if it is collected, handled, or transported in such a way that the substances or constituents of interest cannot be accurately measured or counted in the clinical laboratories. Examples:

- Specimen collected in wrong tube, container, or preservative
- Specimen inappropriately handled with respect to temperature, timing, or storage requirements
- Quantity not sufficient

Specimens Which Pose Hazardous Handling Conditions

Any specimen submitted in a manner which could create a health or safety hazard to laboratory personnel is considered unacceptable:

- Specimens submitted in syringes with needles attached
- Cracked or leaking containers with external contamination
- Specimens submitted in tissue paper, diaper, foil, plastic wrap, gloves, etc.

CORRECTIVE ACTION FOR SPECIMEN ACCEPTANCE

Unlabeled and Mislabeled Specimens

The laboratory is required by its accrediting agencies to reject any specimen which is not correctly identified. The following steps will be taken:

Specimens That **Can** Be Recollected - The laboratory will notify the location where the specimen originated and request a new specimen and requisition.

NOTE: The Transfusion Service absolutely requires a new specimen and requisition on any unlabeled, mislabeled, or incompletely labeled blood specimen without exception.

Specimens That **Cannot** Be Recollected (CSF, fluid aspirates, timed specimens, surgical tissue, etc.) - A person who can verify the identity of the specimen may come to the laboratory to properly label the specimen, and sign a "Mislabeled or Unlabeled Specimen Report" accepting responsibility for the laboratory's performance of tests on an unlabeled or mislabeled specimen.

Incompletely Labeled Specimens

Wrong Case Number, Sex, Spelling of Name, or Shortened Name - The laboratory may ascertain the correct data from the hospital computer system or Admitting, if possible, and contact the location where the specimen originated. Modification of information will be made if specimen identification can be assured.

Unsatisfactory or Suboptimal Specimens

If the collection, transport, or storage conditions are deemed unacceptable by laboratory personnel, the ordered tests will not be performed, the location where the specimen originated will be notified, and a new specimen and requisition will be requested.

Recollection of blood specimens will follow Restick Guidelines. The laboratory technologist will determine the acceptability of the specimen and return the specimen for recollection in Ulticare, noting the reason for the restick. For Outreach specimens, the technologist will notify the customer service representative of the need for a recollect. The customer service representative will, in turn, notify the physician's office that the specimen needs to be recollected. Some examples of rejection of specimens are:

Obvious clots	QNS (quantity not sufficient)
Gross hemolysis	Improper transportation (not on ice)
Wrong collection tube	

If the test can be performed but results are questionable, the nurse in charge of the patient or the physician's office will be contacted to determine if the results are acceptable or consistent with the patient's condition.

Examples of questionable specimens:

Slight to moderate hemolysis	Gases appear venous
Results don't match previous values	Micro clots indicated on CBC
Possible contamination from IV fluid	

Specimens Which Pose Hazardous Handling Conditions

All laboratory specimens must be appropriately packaged in a leak-proof container and placed in a ziploc specimen bag labeled as BIOHAZARD for transport to the laboratory.

Specimens received in syringes with needles attached are considered unacceptable - If such a specimen is received, the laboratory will notify the nursing unit and offer them the opportunity to come to the lab and remove the needle.

Large volume, evacuated, glass bottles used for fluid collection are not acceptable. Please transfer specimens to smaller containers for transport and testing.

Cracked or leaking containers with external contamination, or specimens submitted in tissue paper, foil, etc. are considered unacceptable.

Specimens that can be recollected - The location where the specimen originated will be notified and a new specimen and requisition requested.

Specimens that cannot be recollected such as CSF, fluid aspirates, bronchial washings, surgical tissue, etc. Acceptability will be assessed and the location where the specimen originated will be notified if corrective action is necessary. This action may include offering the nursing unit the opportunity to transfer the specimen to an acceptable, labeled container.

**Saint Francis Hospital Laboratory
Mislabeled or Unlabeled Specimen Form**

Employee's Name: _____

Date and Time of Collection: _____

The employee's failure to follow Laboratory Policy when identifying a patient and/or labeling a specimen resulted in an identification error of a sample belonging to

_____ in room _____.
Patient Name Patient Number

Discrepancy:

- _____ Unlabeled specimen
- _____ Mislabeled specimen Explain: _____
- _____ Specimen identification different from order

Specimen Type:

- _____ Blood _____ Blood Bank _____ Urine _____ Sputum
 - _____ Body Fluid _____ ABGs _____ CSF _____ Other (Specify)
- _____

Follow-up/Action:

- _____ Specimen recollected at _____
- _____ Specimen relabeled by _____
Signature

- _____ Print Name

Reason specimen could not be easily recollected _____

- _____ Unable to recollect/relabel specimen.

Patient Impact:

- _____ Testing delayed
- _____ Results reported on the wrong patient
- _____ Unable to complete testing
- _____ Other _____

Comments:

Laboratory Employee Authorizing Labeling: _____

Progressive disciplinary action may follow.

**Saint Francis Outreach Laboratory
Mislabeled or Unlabeled Specimen Form**

Location of Collection _____

Date and Time of Collection: _____

The employee's failure to follow Laboratory Policy when identifying a patient and/or labeling a specimen resulted in an identification error of a sample belonging to _____.
Patient Name and Number

Discrepancy:

- _____ Unlabeled specimen
- _____ Mislabeled specimen
- _____ Specimen identification different from order

Specimen Type:

- _____ Blood _____ Urine _____ Sputum _____ Culture
- _____ Body Fluid _____ CSF _____ Stool _____ Other (Specify)
- _____

Follow-up/Action:

I understand the improper labeling of this specimen raises possible questions about the true identity of the patient from whom the specimen was obtained. Since this specimen may not easily be recollected and I am in a position to be certain that that this specimen is now correctly identified, I am assuming full responsibility for correct identification by signing this statement.

Signature

Print Name

Patient Impact:

For Lab Use Only

_____ Testing delayed
_____ Results reported on wrong patient
_____ Unable to complete testing
_____ Other _____

FAX FORM BACK TO _____ **AT 918-494-1399.**

NEONATAL AND PEDIATRIC MINIMUM SPECIMEN VOLUMES

The following minimum blood volumes represent the least amount on which the test can be performed one time. It is advisable to collect more than the minimum volume, if possible, to allow for result verification and add-on tests without resticking the patient. Patients with a higher than normal hematocrit will require a greater volume for testing.

<u>TEST</u>	<u>PREFERRED CONTAINER</u>	<u>MINIMUM VOLUME</u>
ABO Group and Rh	Lavender Microtainer	0.5 ml
ABO Type, Rh, and Antibody Screen	Lavender Microtainer	1.5 ml
Acetaminophen	Green Microtainer	0.3 ml
Albumin	Green Microtainer	0.3 ml
Alkaline Phosphatase	Green Microtainer	0.3 ml
Alpha-1-Antitrypsin	Red Microtainer	1.0 ml
Amikacin	Green Microtainer	0.3 ml
Amino Acids	Green Top Tube- On Ice	1.5 ml
Ammonia	Purple Top Tube- On Ice	1.5 ml
Amylase	Green Microtainer	0.3 ml
Bilirubin, Neonatal	Green Microtainer	0.3 ml
Bilirubin, Total	Green Microtainer	0.3 ml
Bilirubin, Total & Direct	Green Microtainer	0.3 ml
BUN	Green Microtainer	0.3 ml
Caffeine	Green Microtainer	0.3 ml
Calcium-Ionized	UAC/ART lines Non-Heparinized Syringe- On Ice	0.2 ml
Calcium-Serum	Green Microtainer	0.3 ml
Carbamazepine	Green Microtainer	0.5 ml
CBC	Lavender Microtainer	0.5 ml
Chem 8	Green Microtainer	0.7 ml
Chem 14	Green Microtainer	1.0 ml

<u>TEST</u>	<u>PREFERRED CONTAINER</u>	<u>MINIMUM VOLUME</u>
Cholesterol	Green Microtainer	0.3 ml
Chromosomes	Green Top Tube- No Ice Sodium Heparin (Na) Only	2.5-3.0 ml
Coombs-Direct	Lavender Microtainer	0.5 ml
CPK	Green Microtainer	0.3 ml
Creatinine	Green Microtainer	0.3 ml
Crossmatch	Lavender Microtainer	1.5 ml
CRP	Red Microtainer	1.4 ml
CSF Protein & Glucose	Plain Tube/Syringe	0.3 ml
Cultures		
Blood	Bactec Pediatric Bottle	1.0 ml
Fungal	Yellow Top Fungal Tube or Bactec Myco F/Lytic Bottle	1.5
Herpes	Lavender Top Tube- No Ice	1.5-2.5 ml
Viral	Lavender Top Tube- No Ice	1.5 ml
DIC Profile	Blue Top Tube <u>and</u> Lavender Microtainer	2.7 ml 0.5 ml
Digoxin	Green Microtainer	0.5 ml
Dilantin	Green Microtainer	0.5 ml
Drug Screen-Serum	Red Microtainer	2.0 ml
Electrolytes	Green Microtainer	0.7 ml
Ferritin	Red Microtainer	1.4 ml
Fibrinogen-See PT		
Gases	Heparinized Syringe- On Ice	0.3 ml
Gentamicin	Green Microtainer	0.5 ml
Glucose	Green Microtainer	0.3 ml
Hemogram	Lavender Microtainer	0.5 ml
Hepatitis B Surface Ag	Red Microtainer	1.4 ml
Hepatitis Profile	Red Microtainer	2.8 ml

<u>TEST</u>	<u>PREFERRED CONTAINER</u>	<u>MINIMUM VOLUME</u>
HIV	Red Microtainer	1.4 ml
IgM or IgG	Red Microtainer	1.4 ml
Iron	Red Microtainer	0.5 ml
Lactic Acid	Green Microtainer- On Ice	0.5 ml
Liver Profile	Green Microtainer	0.7 ml
Magnesium	Green Microtainer	0.3 ml
Methotrexate	Green Microtainer	1.0 ml
Osmolality-Serum	Red Microtainer	0.5 ml
Pentobarbital	Red Microtainer	2.1 ml
Phenobarbital	Green Microtainer	0.5 ml
Phosphorus	Green Microtainer	0.3 ml
Potassium	Green Microtainer	0.3 ml
Prealbumin	Red Microtainer	1.4 ml
Pseudocholinesterase	Green Microtainer	1.4 ml
PT, PTT, Fibrinogen, FSP	Blue Top Tube- Completely Filled No Added Heparin	2.7 ml
Retic Count	Lavender Microtainer	0.5 ml
RPR	Red Microtainer	0.7 ml
Salicylate	Green Microtainer	0.3 ml
SGOT (AST)	Green Microtainer	0.3 ml
SGPT (ALT)	Green Microtainer	0.3 ml
Sodium	Green Microtainer	0.3 ml
T4 Free	Green Microtainer	0.5 ml
Theophylline	Green Microtainer	0.5 ml
TORCH (< 6 months)	Red Microtainer	2.8 ml
TORCH (> 6 months)	Red Top Tube	3.0 ml

<u>TEST</u>	<u>PREFERRED CONTAINER</u>	<u>MINIMUM VOLUME</u>
Total Protein	Green Microtainer	0.3 ml
Transferrin	Red Microtainer	1.4 ml
Triglyceride	Green Microtainer	0.3 ml
TSH	Green Microtainer	0.5 ml
Type and Crossmatch	Pink Top Tube or Lavender Microtainer	2.0 ml
Vancomycin	Green Microtainer	0.5 ml
<u>COMBINED TESTS</u>		
Ammonia	Purple Top Tube- On Ice	1.7 ml
Chem 8, Ca, Trig, Mg, Bili N/D	Green Microtainer	0.7 ml
Chem 14 + Any Therapeutic Drug	Green Microtainer	1.4 ml
Chem 14, GT, Trig, CK, Phos	Green Microtainer	1.4 ml
Chem 14, SGPT (ALT), Mg	Green Microtainer	1.4 ml
Lactic Acid	Green Top Tube- On Ice	1.7 ml
LDH, Alk Phos, SGOT, SGPT	Green Microtainer	0.7 ml
LDH, SGOT, CPK	Green Microtainer	0.7 ml
Total Protein-Albumin	Green Microtainer	0.3 ml
<u>URINE</u>		
Amino Acids	Syringe- On Ice	5.0 ml
CIE	Syringe/Sterile Container	2.0 ml
CMV	Syringe/Sterile Container- On Ice	1.0 ml
Drug Screen	Syringe	10.0 ml
Osmolality	Syringe	0.2 ml

URINE (continued)

<u>TEST</u>	<u>PREFERRED CONTAINER</u>	<u>MINIMUM VOLUME</u>
Protein	Syringe	0.3 ml
Reducing Substance	Syringe	1.0 ml
Sodium	Syringe	0.5 ml
Urinalysis	Syringe	1.0 ml
Viral	Syringe/Sterile Container- On Ice	1.0 ml

NOTES

Lavender Microtainer maximum fill volume is 0.5 ml. Invert several times to prevent clotting. If overfilled, the specimen may clot.

Pink, Green, or Red Microtainer maximum fill volume is 0.7 ml.

One (1) ml is equivalent to 1 cc.

Call the laboratory for tests not on chart or for any questions regarding collection.

NON-BLOOD SPECIMEN COLLECTION

URINE COLLECTION

Urine for routine urinalysis must be collected in a container that is sterile, free of preservatives, and leak-proof. A urinalysis cannot be performed from the gray top container that is used for urine cultures.

Specimens need to be properly labeled with patient's name, patient identification number, and date and time collected. Tests must be ordered in Ulticare, including the type of specimen collected (random, cath, midstream).

All specimens for urinalysis should be delivered to the laboratory within 30 minutes of collection or refrigerated at 2-8°C and delivered as soon as possible. Specimens held at room temperature for more than two hours should be recollected.

Urine specimens may be transported through the computerized tube system.

Types of Specimens Used for Urinalysis

Random

Collect the entire voided specimen. Early morning specimen is preferred, but any time specified by the physician is acceptable. Avoid fecal and vaginal contamination.

Clean-Voided or Midstream

In males, the glans should be exposed, washed with an antiseptic, and dried. The initial flow should be allowed to escape and the middle portion is caught in a sterile container.

With the female patient kneeling or squatting over a bed pan or standing astride the toilet, using sterile gloves, spread the labia minora to expose the urethral orifice and keep labia spread throughout the procedure.

Wash urinary meatus with sterile soapy cotton balls or a towelette wiping from front to back. Rinse with sterile water-saturated cotton balls. Instruct patient to void forcibly, allowing first urine to escape. Catch middle portion in a sterile container. Allow labia to close and patient completes voiding in the bedpan or toilet.

A properly collected sterile midstream urine provides the best testing information.

Catheterized or Suprapubic

Nursing personnel will collect the sample according to the Nursing Procedure Manual.

Timed Urine Collection

When a timed urine test is ordered, the nursing unit should complete a urine container label (located in the unit) with patient and test information. Bring the label to the laboratory office and a container with the appropriate preservative will be issued for collection.

At the beginning of the collection period, have the patient empty his/her bladder and discard this urine. Record the time voided on the label. Collect and save all urine as one specimen in the provided container until the end of the timed collection. Have the patient empty his/her bladder at the end of the time period and add this to the container to complete the collection.

Deliver the entire specimen to the laboratory along with a properly completed requisition. It is vital that the laboratory knows the exact collection time period, i.e., 2 hours, 12 hours, 24 hours.

If the patient is discharged prior to the end of the collection period, send the specimen container with the patient. Instruct patient on the proper collection of the specimen. At the end of the collection period, have the patient bring the specimen to the laboratory office as soon as possible.

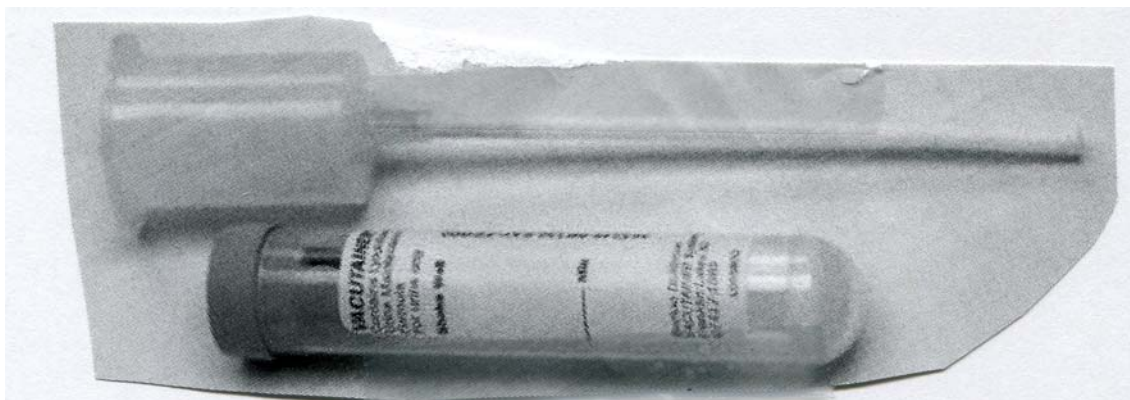
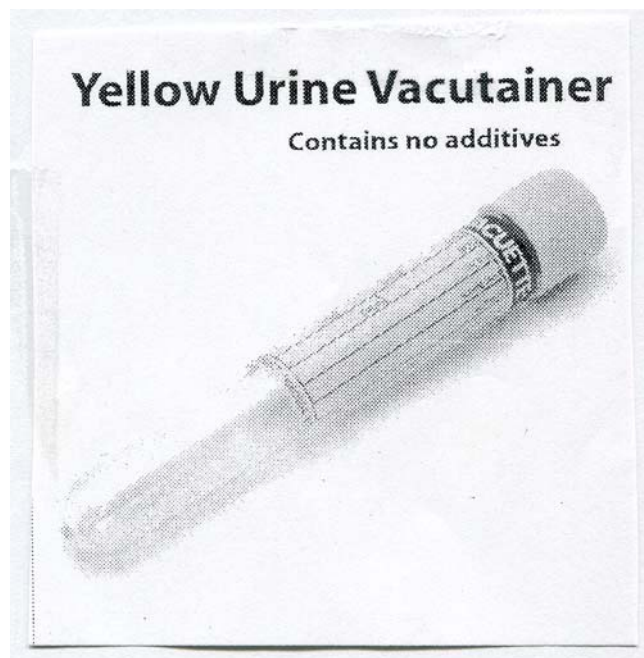
PATIENT INSTRUCTIONS FOR 12 AND 24-HOUR URINE COLLECTION

1. You have been issued a container for your timed urine collection. This jug may contain acid, a preservative or nothing depending on the test that will be performed.
2. At the beginning of the collection period (generally the first morning specimen), empty your bladder and discard this urine.
3. Record the time.
4. From this point on, save all urine as one specimen in the container provided until the end of the designated time period. Store the container in the refrigerator to prevent bacterial growth.
5. At the end of the time period, empty your bladder and add to the container to complete the specimen collection.
6. Note the time.
7. Make sure the specimen is labeled with the correct identification information.

8. Bring the specimen and the request form to the laboratory as soon as possible.
9. **If your physician has ordered a Creatinine Clearance test for you, we must collect a blood specimen when you return your urine specimen.**
10. It is vital that the laboratory knows the exact collection time period, e.g. 12 hours or 24 hours.

SAINT FRANCIS HOSPITAL LABORATORY
6161 S. YALE
TULSA, OK 74136
918-494-1300

Use of the Urine Collection System



Directions for Use:

1. Label urine tube with patient name by placing Ulticare barcode label along the dotted line.
2. Place plastic transfer device into the urine tube.
3. Attach tube (yellow or gray) to transfer device. The tube will automatically fill.
4. Dispose of transfer device in sharps container.
5. Use a **yellow-top** tube for **routine UA, drug screen, or urine chemistry tests**, and a **gray-top** tube for **urine culture**.
 - UA with culture, if indicated orders require collection of both yellow-top and gray-top tubes.
 - Gray-top tubes for cultures should be inverted approximately five times to disperse and dissolve the boric acid powder into the urine.
 - Urinalysis cannot be performed on a gray-top tube.

CSF COLLECTION

CSF specimens are collected by a physician. Sterile, plastic, numbered tubes obtained from Instrumentation Services for collecting and transporting CSF are included in LP trays provided by Central Supply.

Fill the numbered CSF tubes sequentially as the specimen is collected from the patient. Unless otherwise specified on the requisition, testing will be done as follows:

- Tube #1 - Cytology, Microbiology
- Tube #2 - Chemistry
- Tube #3 - Hematology
- Tube #4 - Hold

Tubes must be properly labeled with complete patient identification. Mislabeled or unlabeled tubes will require a "Mislabeled or Unlabeled Specimen Report" be completed by an individual who can verify the identity of the specimen.

Immediately deliver specimens to the laboratory for analysis as white blood cells and red blood cells will begin to lyse within one hour of collection. Do not send CSF through the pneumatic tube system.

CSF ORDERS

If the Physician Orders

Oligoclonal Bands
IgG Synthesis
CSF Analysis
CSF Culture and Gram Stain

You Order

CSF Electrophoresis
CSF Electrophoresis
CSF Cell Count
CSF Culture

Test Name

CSF Analysis
CSF Profile

What It Is

CSF Cell Count & Differential
CSF Protein, CSF Glucose, CSF
Cell Count & Differential

Test Name

CSF Analysis
Cell Count & Differential
CSF Glucose
CSF Protein
CSF Electrophoresis
CSF VDRL
Fungal Serology
CSF Culture
HSV PCR

Where Is It Done

Hematology
Hematology
Chemistry
Chemistry
Chemistry
Immunology
Immunology
Microbiology
Reference

REMEMBER:

You MUST have a blood specimen drawn from the patient if a CSF electrophoresis, oligoclonal bands, or IgG synthesis is ordered!

CSF LABORATORY ORDERS

TO ACCESS CSF TEST NAMES, TYPE "CSF-" INTO THE NAME SEARCH FIELD ON THE ORDER ENTRY SCREEN

Physician Order	Uticare Procedure Name	Minimum Volume	Performing Dept.	Notes
ACE	Angiotensin Converting Enzyme, CSF	1 ml	Reference	Can be ordered by entering ACE- in Uticare
Aerobic Gram Stain	CSF Culture or Routine Culture		Microbiology	Cannot be ordered on CSF without a culture
AFB Culture	Culture, Acid Fast with Stain	0.2 ml	Microbiology	See Micro Note
AFB Smear	Should be ordered as Acid Fast Culture w/Smear	0.4 ml	Microbiology	
Anaerobic Gram Stain	Routine Culture with Gram Stain and Anaerobe	0.4 ml	Microbiology	
Anaerobic Culture	Routine Culture with Gram Stain and Anaerobe	0.4 ml	Microbiology	An anaerobic culture cannot be ordered without a routine culture as well.
Bacterial C&S	CSF Culture or Routine Culture			
Cell Count	CSF Cell Count	0.5 ml	Hematology	Includes Cell Count and Differential
Cell Count and Differential	CSF Cell Count	0.5 ml	Hematology	Includes Cell Count and Differential
Chloride	CSF Chloride	0.5 ml	Chemistry	
CIE	Bacterial Antigen Profile	0.4 ml	Microbiology	
CMV PCR	CMV PCR	0.5 ml	Reference	
Collect 4 Tubes	Write in Order Comment			
Cryptococcal Antigen	Cryptococcal Antigen	0.5 ml	Microbiology	See Micro Note
Crypto Latex	Cryptococcal Antigen	0.5 ml	Microbiology	
CSF Analysis	CSF Analysis	0.5 ml	Hematology	Includes Cell Count and Differential
CSF Electrophoresis	CSF Electrophoresis	1.5 ml	Chemistry	Blood specimen is REQUIRED. Please call 11300 or 16551
NA (Sodium)	CSF Sodium	0.5 ml	Chemistry	
CSF Profile	CSF Profile	1 ml	Hematology & Chemistry	Includes Cell Count and Differential, Protein and Glucose
Cytology	Cytology Exam		Cytology	
Fungal Culture with Fungal Stain	Fungal Culture, Fungal Stain	0.2 ml	Microbiology	See Micro Note
Freeze and Hold	CSF Freeze and Hold		Immunology	
Fungal Culture	Fungal Culture	0.2 ml	Microbiology	See Micro Note
Fungal Smear	Fungal Stain	0.2 ml	Microbiology	
Fungal Serology	CSF Fungal Serology	1 ml	Immunology	
Gentamycin	CSF Gentamycin	0.5 ml	Chemistry	
Glucose	CSF Glucose Level	0.5 ml	Chemistry	
Glucose- Blood Draw Same Time				Call Lab for draw
Gram Stain and/or Smear	CSF Culture or Routine Culture and Gram Stain			
HSV PCR	HSV PCR	0.5 ml	Reference	
IgG Index	CSF Electrophoresis	1.5 ml	Chemistry	Blood specimen is REQUIRED. Please call 11300 or 16551
IgG Synthesis	CSF Electrophoresis	1.5 ml	Chemistry	Blood specimen is REQUIRED. Please call 11300 or 16551
India Ink	Cryptococcal Antigen	0.5 ml	Microbiology	See Micro Note
IPEP	CSF Electrophoresis	1.5 ml	Chemistry	Blood specimen is REQUIRED. Please call 11300 or 16551

Physician Order	Ulticare Procedure Name	Minimum Volume	Performing Dept.	Notes
K (Potassium)	CSF Potassium	0.5 ml	Chemistry	
Lactic Acid	CSF Lactic Acid Level	0.5 ml	Chemistry	
LDH	CSF Lactate Dehydrogenase	0.5 ml	Chemistry	
Lyme Disease	CSF Lyme Antibodies	0.2 ml	Immunology	
MEM Panel	MEM Panel	3 ml	Reference	See attached list of tests included
Myelin Basic Protein	Myelin Basic Protein	0.5 ml	Reference	
Oligoclonal Bands	CSF Electrophoresis	1.5 ml	Chemistry	Blood specimen is REQUIRED. Please call 11300 or 16551
PCR for Lyme	Not orderable in Ulticare - call reference		Reference	
PEP	CSF Electrophoresis	1.5 ml	Chemistry	Blood specimen is REQUIRED. Please call 11300 or 16551
Protein	CSF Protein	0.5 ml	Chemistry	
Protein- Blood Draw Same Time	Serum Protein		Chemistry	
Protein and Glucose	CSF Protein and Glucose	0.1 ml	Chemistry	
Routine Culture	CSF Culture	0.2 ml	Microbiology	See Micro Note
Save Remainder	CSF - Freeze and Hold		Reference	
SPEP- Blood Draw Same Time	Serum Protein Electrophoresis		Chemistry	
Total Protein - Blood Draw Same Time	Serum Total Protein		Chemistry	
Toxoplasma	CSF Toxoplasma Antibodies	0.2 ml	Immunology	
Vancomycin	CSF Vancomycin	0.5 ml	Chemistry	
VDRL	CSF VDRL	0.05 ml	Immunology	
Viral Culture	CSF Viral Culture	0.4 ml	Microbiology	See Micro Note
Viral Antigen Panel	MEM Panel	3 ml	Reference	See attached list of tests included
Wet Mount for Parasites	Wet Mount	0.05 ml	Microbiology	See Micro Note

MICRO NOTE: If the patient has multiple Microbiology orders, 1 ml is generally sufficient for all Microbiology tests combined. If viral cultures are ordered in addition, more CSF will be required. REMEMBER - Gram stains are performed whenever ANY Microbiology test is ordered on CSF.

IF THE REQUESTED TEST DOES NOT APPEAR ON THIS LIST, **CALL REFERENCE AT x16574, M-F, 0730 to 1600, or x16571 AT ANY OTHER TIME.** THE TEST MAY NOT BE ORDERABLE IN ULTICARE. **ALL LABELS MUST BE RETURNED TO THE LABORATORY WITH THE SPECIMEN.**

BODY FLUID COLLECTION

Body fluids include peritoneal (ascites, paracentesis), pleural (thoracentesis), pericardial, synovial (joint fluid), and cyst (all). These specimens are collected by a physician with nursing assistance.

Determine the tests that will be ordered prior to fluid collection in order to have the proper tubes available. Whenever possible, please do not submit large containers of fluid to the laboratory. Deliver specimen in the following tubes to the laboratory immediately.

Cytology (see Cytology section)

Cell Count

Fill a 5 ml **purple top Vacutainer tube** (containing EDTA) at least half full and mix well. This should prevent clotting and enable the physician to make an appropriate diagnosis on the state of the fluid. Please note if a specimen is clotted; the laboratory cannot report an accurate count on clotted specimens, and only a stained smear enumerating cells can be reported.



pH or Other Chemistries

Fill a 5 ml **green top Vacutainer tube** (containing lithium heparin) at least half full and, if volume permits, fill a 6 ml **red top tube** half full. Place green top tube on ice if pH is requested.



Culture

Fill a sterile container or syringe with a minimum of 1.0 ml of fluid. Twenty (20) ml of fluid is optimal for pleural and peritoneal fluids.



DRUG SCREEN COLLECTION

Saint Francis Hospital Laboratory offers drug testing for medical and legal purposes.

Medical Drug Screens

Medical drug screens are performed on individuals who may have purposely or inadvertently ingested substances with potential for immediate toxic effects (e.g., poisonings, overdoses, and to differentiate from metabolic crises). They are usually ordered in the Trauma Emergency Center as a component of diagnosis and treatment of potentially unstable patients, but may be collected in the Main Laboratory by physician's order. Medical drug screens cannot be used for legal purposes because they do not utilize a "Chain of Custody" form.

Persons presenting for medical drug screening with a physician's order and not in need of medical evaluation may be referred directly to the Main Laboratory.

Medical drug screens may be performed on urine, serum, and gastric specimens. Urine and gastric specimens must be collected in leak-proof containers containing no preservatives. Blood for serum drug screens should be collected in a red top Vacutainer tube without a serum separator (gel). Properly identified specimens and test requisitions may be delivered or sent to the laboratory via the hospital computerized tube system.

The following drug screen profiles list the drugs tested by specimen type:

DRUG SCREEN OF ABUSE, URINE

Amphetamine	Cannabinoid
Barbiturate	Cocaine
Benzodiazepine	Opiates

DRUG SCREEN TOX, URINE

Amitriptyline	Diphenhydramine	Molindone
Amoxapine	Doxepin	Morphine
Amphetamine	Doxylamine	Nortriptyline
Barbiturates	Ephedrine	Oxycodone
Benzodiazepines	Fluoxetine	Oxymorphone
Benzoyllecgonine	Haloperidol	Pentazocine
Cannabinoids (THC)	Hydrocodone	Phendimetrazine
Chlorpheniramine	Hydromorphone	Phentermine
Chlorpromazine	Hydroxyzine	Phenylpropanol
Clomipramine	Imipramine	Propoxyphene
Cocaine	Labetalol	Pseudoephedrine
Cyclobenzaprine	Lidocaine	Pyrilamine
Desipramine	Loxapine	Ranitidine
Dextromethorphan	Meperidine	Thioridazine
Dihydrocodeine	Mesoridazine	Thiothixene
Dihydromorphone	Methamphetamine	Trazodone
		Other Drugs

Reference value for all drugs = Negative
Drugs not listed will be reported as a comment under
"Other Drugs."

DRUG SCREEN, SERUM

Acetaminophen	Fluoxetine
Alprazolam	Flurazepam
Amitriptyline	Lorazepam
Benzo Metabolite	Nortriptyline
Butalbital	Oxazepam
Carbamazepine	Phenobarbital
Chlordiazepoxide	Phenytoin
Desipramine	Prazepam
Diazepam	Temazepam
Doxepin	Other Drugs

Reference values for all drugs = Negative
Quantitative serum acetaminophen is included.
Drugs not listed will be reported as a comment under
"Other Drugs."

Salicylate and serum alcohol are not included. They may be requested if needed.

DRUG SCREEN, GASTRIC

Alprazolam	Flurazepam
Amitriptyline	Lorazepam
Butalbital	Nortriptyline
Carbamazepine	Oxazepam
Chlordiazepoxide	Phenobarbital
Desipramine	Phenytoin
Diazepam	Prazepam
Doxepin	Temazepam
Fluoxetine	Other Drugs

Reference value for all drugs = Negative
Drugs not listed will be reported as a comment under
"Other Drugs."

Legal Drug Screens

Legal drug screens are performed for administrative, pre-employment, or investigative purposes (e.g., company policy following a work related accident; behavior suggestive of substance abuse in a medically stable person at work, school, or home; at the request of a competent individual for his/her own information).

Legal drug screens are not performed by the laboratory at Saint Francis Hospital.

Trauma Emergency Center personnel will refer all patients who need legal drug screening to a facility that can collect the specimen.

For patients requiring admission to the hospital, the drug screening should be written as part of the admission orders. The laboratory will collect these specimens.

All legal drug screens on Saint Francis Hospital employees are collected by Employee Health Service (EHS).

Laboratory Procedure

Legal drug screens are sent to a reference laboratory for testing and confirmation. Any positive result on a legal drug screen is confirmed by gas chromatograph/mass spectrometry. Results of legal drug screens are generally available in two days and are released by the Customer Service Representative to the individual or employer indicated by the patient on the "Consent to Drug Screen Testing" form.

Drugs that are tested for in a legal drug screen include:

- | | |
|--|------------------|
| 1. Amphetamines (1000 ng/ml Screen) | 6. Methadone |
| 2. Barbiturates | 7. Methaqualone |
| 3. Benzodiazepines | 8. Opiates |
| 4. Cocaine Metabolites | 9. Phencyclidine |
| 5. Marijuana Metabolites (50 ng/ml Screen) | 10. Propoxyphene |

Pre-employment, post-accident, or periodic testing for companies that have government contracts and fall under DOT (Department of Transportation) regulations are tested for:

1. Amphetamines (1000 ng/ml Screen)
2. Cocaine Metabolites
3. Opiates
4. Marijuana Metabolites (100 ng/ml Screen)
5. Phencyclidine

SPECIMEN COLLECTION FOR MICROBIOLOGY PROCEDURES

GENERAL INFORMATION

TRANSPORT GUIDELINES

Whenever possible, minimize transport time and deliver all specimens to the Microbiology laboratory promptly, preferably between 1-2 hours.

If a delay in transport is anticipated, a transport medium suitable to specimen and testing to be performed should be used.

Most specimens *can* be refrigerated at 2-8° **with the following exceptions:**

1. Blood culture vials (MUST be at ambient temperature)
2. Genital specimens for *Neisseria gonorrhoeae* culture (ambient temperature)
3. CSF and other sterile body fluids, except urine (ambient temperature or 35-37° for CSF)
4. Stool in preservative and/or transport medium (ambient)
5. Eyes and inner ear specimens (ambient)
6. Specimens being submitted onto primary culture medium (ambient)

LABELING

Appropriate information is critical to proper processing of test requests. Any additional pertinent clinical information, such as diagnosis or suspect organism, is highly desirable. Always provide the following information:

1. Patient's name
2. Source of specimen or collection site (i.e., throat, PNP, urine, etc)
3. Date of collection
4. Test desired

Timing of Collection

Sputum, urine, stool, etc. are best collected in early morning and sent to the laboratory the same day.

- **Transport with lids securely affixed. Place specimens in a biobag for transport.**
- Include pertinent information such as Penicillin allergic, especially if screening for Group B strep from OB patients.

GENERAL COLLECTION GUIDELINES

1. Specimens should be collected before antimicrobials are administered.
2. Use the correct sterile container or transport device.
3. If samples will be delayed in transporting or processing, appropriate transport medium should be used.

4. Collect from actual infection site with as little contamination from indigenous flora as possible.
5. Collect an adequate amount of sample. Actual **tissue** rather than a swab of tissue is preferred.
6. Non-specific sources such as “wound”, “urogenital”, etc., should be avoided if possible. Use specific descriptor and diagnosis.
7. A request for a direct gram stain should be included with “wound” cultures to allow adequate evaluation and interpretation.
8. The first, early morning sputum and urine samples are optimal for recovery of acid-fast bacteria, fungi, and other pathogens because they are more concentrated and more likely to contain large numbers of pathogens.
9. If a specimen is to be collected through intact skin, cleanse skin first with 70% alcohol followed by 1-2% tincture of iodine (or a 10% solution of provodone-iodine). Allow a contact time of two minutes to maximize the antiseptic effect.
10. Dried, delayed, inadequate amount, externally contaminated samples, duplicate samples, leaking samples, or samples sent in wrong transport or preservative medium will be rejected at the discretion of the Microbiology laboratory personnel.
11. Never transport specimens in syringes with needles attached.
12. Orders for Throat cultures should indicate organism suspected. If not included, throat culture will target *Streptococcus pyogenes* (group A beta hemolytic strep) only.
13. Vaginal cultures should indicate organism suspected. If bacterial vaginosis is suspected, vaginal gram stains may provide more useful information.
14. Vaginal, cervix, respiratory, stool, penis, urethral, perineum and vaginal/anorectum are not appropriate specimen types for anaerobes as anaerobes are a part of the usual flora for these sites.
15. Nasal swabs are primarily used for the detection of staphylococcal carriers and are not a predictor of sinus or middle ear etiologic agents.
16. Mouth cultures should only be used to isolate yeast or HSV.
17. Label correctly and send specimen to Microbiology as soon as possible.
18. Avoid contamination of the container.

REJECTION OF SPECIMENS

As part of our active quality assurance program, we have developed the following list of specimen rejection criteria. These criteria were developed with the intention of ensuring accurate, meaningful patient results.

Unsatisfactory Information

- **Specimens must be properly identified by patient's full name.**
- **All specimens must be accompanied by a requisition which includes name, birthdate, sex, date and time of collection, and name of requesting physician.**
- **The specific source of specimen should be noted.**
- **A specimen not labeled properly *may* be discarded.**

Inadequate specimen due to collection and transportation problems

- **Prolonged delay in transport**
- **Inadequate volume**
- **Samples sent in wrong transport or preservative medium**
- **Transported at wrong temperature**

Specimen visually unacceptable

- **Dried**
- **Externally contaminated samples**
- **Duplicate samples**
- **Leaking samples**

MICROBIOLOGY TEST SCHEDULE

The Microbiology Laboratory is open from 0630-2300 seven days a week. Cultures are set up continuously during these hours. Limited service is available between the hours of 2300-0630.

CULTURES PERFORMED

Test Schedule

Availability

Acid Fast (Mycobacterial) Culture
with Smear

Always performed with AF smear (except on blood).
Processed daily. Cultures continuously monitored;
positives worked up on day shift only. Cultures are held
6 weeks before negative report issued. No stools are
cultured for AF organisms; only smears performed.

Acid Fast Smear

See description under "Smears and Non-Culture
Testing."

Aerobic (Routine) Culture

Processed daily. Read daily; incubation times vary by
specimen. Susceptibilities are routinely performed when
indicated and are available in most instances within 24
hours of growth, depending upon the organism isolated.
Susceptibility testing conforms to CLSI guidelines. (No
testing performed without CLSI guidelines available.)

Test Schedule

Availability

Anaerobe Culture

Processed daily. Read daily; held for 3 days.
Performed only on acceptable specimens. Should not be performed on cervix/endocervix, perineum, urethra, vagina, vaginal/anorectum, vulva, penis, mouth/oral, respiratory specimens, rectal, or stool.

Bartonella Culture

Processed daily. Read daily; held 8 days before negative result issued.

Blood Culture, Acid Fast

Processed daily. Monitored continuously. Preliminary report on negative cultures available at 48 to 72 hours. Cultures are held 6 weeks before negative report issued.
Positive blood cultures are called immediately to the nursing unit or to the physician.

Blood Culture, Fungus

Processed daily. Monitored continuously. Preliminary report on negative cultures available at 48-72 hours. Cultures are held 4 weeks before negative report issued.
Positive blood cultures are called immediately to the nursing unit or to the physician.

Blood Culture, Routine

Processed daily. Monitored continuously. Preliminary report on negative cultures available at 24 hours. Cultures are held 5 days before negative report issued.
Positive blood cultures are called immediately to the nursing unit or to the physician. Please specify if unusual isolates are suspected (such as *Brucella*, *Bartonella*, or *Francisella tularensis*; increased incubation times are required).

Bordetella pertussis and
Bordetella parapertussis
Culture and DFA

Processed daily. Culture, DFA read on first shift only.

Chlamydia Species Culture

Processed daily; read on first shift at 48 hours. Does not differentiate between *C. trachomatis*, *C. psittaci*, or *C. pneumoniae*.

Dermatophyte Culture

For fungal cultures of hair, skin, or nails. Processed daily; results available Monday through Friday, first shift.

Fungal Culture

Processed daily. Read twice per week; cultures are held 4 weeks before negative report issued.

Fungal Smear

See description under "Smears and Non-Culture Testing."

Group B Strep Screen

Processed daily. Please specify if patient is penicillin-allergic.

<u>Test Schedule</u>	<u>Availability</u>
<i>Herpes simplex</i> Culture	Processed daily. Cultures read Monday through Friday. Preliminary report issued at 24-72 hours. Cultures are held 5 days before negative result issued.
Legionella Culture w/DFA	Processed daily. First shift reporting for DFA. Detects Legionella pneumophila.
<i>Mycoplasma hominis</i> Culture	Referred to Reference lab. Processed Monday-Friday. Results available at four days.
<i>Nocardia</i> Culture	Processed daily. Cultures read twice per week. Preliminary reports issued at 48-72 hours. Held 4 weeks before negative report issued.
Serum Bactericidal Level	Processed daily, first shift. Requires patient's isolate and peak or trough serum from patient. Allow up to 72-96 hours post blood draw for testing to be completed.
Stool Culture	Processed daily. Routine stool set up includes processing for <i>Salmonella</i> species, <i>Shigella</i> species, <i>Campylobacter jejuni</i> , and <i>E. coli</i> O157, as well as testing for Enterohemorrhagic <i>E. coli</i> (EHEC). Cultures for <i>Aeromonas</i> species, <i>Vibrio</i> species and <i>Yersinia</i> species by special request. Should not be performed on patients hospitalized for ≥ 3 days (consider <i>C. diff</i> toxin assay).
Throat Culture	Processed daily; read daily first shift. Group A strep (<i>Streptococcus pyogenes</i>) is the <u>only</u> organism routinely sought. If looking for <i>Arcanobacterium</i> species, order throat culture and specify organism. If looking for GC, please order a GC culture and specify "throat" as specimen type. If looking for diphtheria, order a throat culture and specify for <i>C. diphtheria</i> .
<i>Trichomonas vaginalis</i> Culture	Performed daily; use in place of wet mount when specimen cannot reach Microbiology within 30 minutes of collection. Cultures are held 3 days before a report of negative is issued.
<i>Ureaplasma urealyticum</i> Culture	Referred to Reference lab. Processed Monday-Friday. Results available at four days.
Urine Culture	Processed daily. Read daily. Susceptibility testing performed on appropriate isolates.
Virus Blood Culture for CMV	Available with or without antigenemia for CMV. Processed daily. Read Monday-Friday; preliminary reports available at 48-72 hours post set-up. Time to final is dependent upon specimen type and virus suspected.

Test Schedule

Virus (Non-Blood) Culture

VZV/Herpes Culture
with DFA

Availability

Processed daily. Scope of cultures available include CMV, Enterovirus (includes Coxsackie, enterovirus, echovirus, and poliovirus), *Herpes simplex*, *Varicella zoster*, and the common respiratory viruses (includes Adenovirus, Influenza A and B, RSV and Parainfluenza). **(Cultures NOT performed for Norovirus (Norwalk-like), BK virus, papilloma virus, or adenovirus 40/41.)** Read Monday-Friday; preliminary reports available at 48-72 hours post set-up. Time to final is dependent upon specimen type and/or viruses suspected.

Processed daily. Read Monday through Friday, first shift. Preliminary reports at 72 hours. It is preferred that a VZV/HSV DFA stain be requested and performed along with the culture. Time to positivity with varicella by culture may be too long to be of benefit.

SMEARS AND NON-CULTURE TESTING

<u>Test Schedule</u>	<u>Availability</u>
Acid Fast Smear	Performed routinely with all AF cultures (except blood). Processed daily. Reported within 24 hours of receipt Monday through Friday. Results available on weekends by special request through Infection Control. All positive smears are called immediately to the nursing unit or physician.
<i>Bordetella pertussis/parapertussis</i> DFA	Performed daily, first shift; post-nasopharyngeal specimens; should be performed in conjunction with culture.
<i>Chlamydia/GC</i> Amplified Testing	Non-culture method for the detection of <i>Chlamydia trachomatis</i> and <i>Neisseria gonorrhoeae</i> from urogenital specimens only . (Eye and respiratory specimens require a <i>Chlamydia</i> culture.)
<i>Clostridium difficile</i> (C. Diff) Toxin Assay	Performed two times daily (early P.M. on first shift; 1900-2100 on second shift). Not recommended on children under the age of 2; should not be performed on formed stools, and should not be performed as a test of cure.
CMV Antigenemia	Available with or without virus blood culture. Processed daily. Results usually available within 24-36 hours of receipt.
Cryptococcal Antigen	Performed daily; first and second shift.
Cryptosporidium/Giardia Screen	Rapid EIA test for detection of <i>Cryptosporidium/Giardia</i> only.
Fecal Fat	Performed daily; first shift only.
Fungal Smear	Not routinely performed with fungus cultures; must specify, if indicated. Processed daily. Read Monday-Friday, first shift.
Gram Stain	Performed upon receipt; 24 hour availability.
<i>Helicobacter pylori</i> Testing (biopsy specimen)	Performed daily; first shift.
Legionella DFA	Detects <i>Legionella pneumophila</i> only.

Test Schedule

Availability

Legionella Urinary Antigen

Detects presence of *Legionella pneumophila* antigen in urine. Does not detect other species of Legionella. Performed daily first shift only.

Occult Blood, Guaiac

Performed daily, all shifts.

Occult Blood, Immunochemical

Performed daily, all shifts.

Ova and Parasites

Microscopic examination for the presence of ova & parasites. Performed daily; first shift only. Includes Trichrome stain when appropriate. May be appropriate for patients with history of travel outside of the U.S., or if *Cryptosporidium/Giardia* screen is negative and parasites are suspected.

Pneumocystis carinii (jiroveci)
DFA

Detects *Pneumocystis carinii (jiroveci)* in respiratory specimens. Performed daily, first shift only.

Rapid Influenza A/B

Performed upon receipt, 24 hour availability.

Rapid RSV Testing

Performed upon receipt, 24 hour availability.

Respiratory DFA

Performed for influenza A/B, RSV, parainfluenza, and Adenovirus during low prevalence periods (instead of rapid RSV/Influenza); used as reflex testing for negative RSV/Influenza. Available three times per day, early AM, late PM, and late evening (approximately 1900-2100).

Rotavirus

Performed daily; first and second shift.

Strep Screen (Rapid Group A Strep)

Performed upon receipt, 24 hour availability.

Streptococcus pneumoniae
Urinary Antigen

Detects presence of *S. pneumoniae* antigen in patients with *S. pneumo pneumonia*.

Wet Prep

Performed upon receipt, 24 hour availability.

Test	Specimen Type	Transport Medium	Transport Temperature	Storage Time
Amplified GC/ Chlamydia	Endocervix, vagina penis/ urethra	ProbeTec swab transport (blue/male; pink/female)	2-8°C	3 days
<i>C. difficile</i> Toxin	Stool	Sterile container	< 1 hr at RT	< 24 hrs at 2-8°C
Cryptococcal Antigen	Serum, CSF	Gold top Screw-capped tube	< 2 hrs at RT	< 24 hrs at RT
Cryptosporidium/ Giardia Screen	Stool	Sterile container Clean vial of O&P pack	< 1 hr at RT	< 24 hrs at 2-8°C
Culture, Acid Fast (mycobacteria)	Lower respiratory	Sterile cup or trap	< 2 hrs at RT	< 24 hrs at 2-8°C
Culture, Acid Fast	Urine	Sterile cup	< 2 hrs at RT	< 24 hrs at 2-8°C
Culture, Acid Fast	Wound	Swab transport	< 2 hrs at RT	
Culture, Acid Fast Blood	Blood	Bactec Myco/F bottle	< 2 hrs at RT	< 24 hrs at RT
Culture, Aerobe	BW/BAL, Sputum	Sterile cup	< 2 hrs at RT	< 24 hrs at 2-8°C
Culture, Aerobe	Cervix	Swab transport	< 2 hrs at RT	< 24 hrs at RT
Culture, Aerobe	CSF	Sterile screw-cap tube	< 15 min at RT	Do not refrigerate
Culture, Aerobe	Ear	Swab transport	< 2 hrs at RT	< 24 hrs at RT
Culture, Aerobe	Eye	Swab transport	< 2 hrs at RT	Do not refrigerate
Culture, Aerobe	Tissue, swab, fluid, cath tip	Swab transport or sterile cup (for fluid or cath tip)	RT	< 24 hrs
Culture, Aerobe	Vaginal	Swab transport	< 2 hrs at RT	< 24 hrs at RT
Culture, Aerobe	Wound	Swab transport	< 2 hrs at RT	< 24 hrs at RT
Culture, Anaerobe	Tissue, swab or fluid	Swab transport	RT	< 24 hrs
Culture, <i>B. pertussis</i> & <i>B. parapertussis</i> Culture and DFA Stain	NP swab	Charcoal transport	< 2 hrs at RT	< 24 hrs at RT
Culture, Blood (routine)	Blood, 8-10 ml optimum; 3-10ml minimum; Peds 1-3 ml	BacT/Alert PF (aerobe); BacT/Alert SN (anaerobe); or BacT/Alert FA (peds)	< 2 hrs at RT	< 24 hrs at RT
Culture, Chlamydia	Swab	Viral Chlamydia transport medium (M4 or VCTM)	2-8°C	< 24 hrs

Test	Specimen Type	Transport Medium	Transport Temperature	Storage Time
Culture, Chlamydia	Swab, respiratory secretions	VCTM	< 2 hrs at 2-8°C	< 24 hrs at 2-8°C
Culture, Dermatophyte	Nail, hair	Sterile container	< 24 hrs at RT	
Culture, Dermatophyte	Skin	Swab transport	< 24 hrs at RT	
Culture, Fungus	Lower respiratory	Sterile container	< 24 hrs at RT	
Culture, Fungus	Mouth	Swab transport	< 24 hrs at RT	
Culture, Fungus Blood	Blood	BTA aerobe	< 2 hrs at RT	< 24 hrs at RT
Culture, GC, Genital	Swab	Swab transport	< 2 hrs at RT	< 24 hrs at RT Do not refrigerate
Culture, Group B strep	Vaginal/rectal swab	Swab transport	< 2 hrs at RT	< 24 hrs at RT
Culture, Herpes	Swab	VCTM	2-8°C	2-8°C
Culture, Legionella w/DFA	Sputum, BW, BAL	Sterile container	2-8°C	2-8°C
Culture, Mycobacteria See Culture, AF				
Culture, Mycoplasma Referred to reference lab	Cervix, respiratory	VCTM	2-8°C	2-8°C
Culture, Routine See Culture, Aerobe				
Culture, Stool for Enteric Pathogens	Rectal swab, stool	Swab transport Sterile container	< 2 hrs at RT < 1 hr at RT	< 24 hrs at 2-8°C
Culture, Throat	Throat swab	Swab transport	< 2 hrs at RT	< 24 hrs at RT
Culture, Trichomonas	Vaginal swab	InPouch	RT	< 24 hrs
Culture, Ureaplasma Referred to reference lab	Cervix, respiratory	VCTM	2-8°C	2-8°C
Culture, Urine	Urine	BD gray vacutainer, Sterile cup	< 1 hr at RT	< 24 hrs at 2-8°C
Culture, Varicella zoster	Swab	VCTM (M4)	2-8°C	2-8°C
Culture, Virus	Tissue, fluid, swab	VCTM (M4)	2-8°C	< 24 hrs at 2-8°C
Culture, Virus Blood w/ or w/o Antigenemia	Blood	EDTA	< 2 hrs at RT	< 24 hrs at RT
<i>E. coli</i> O157	Stool	Sterile container	2-8°C	2-8°C
Legionella Urinary Antigen	Urine	Sterile container	2-8°C	2-8°C

Test	Specimen Type	Transport Medium	Transport Temperature	Storage Time
Occult Blood, Guaiac	Stool	Clean container or hemocult slide	RT	RT
Occult Blood, Immunochemical	Stool	Polymedco collection device	RT	RT
Rapid Influenza A/B	Nasal aspirate, nasal washing, NP swab	VCTM, sterile container	2-8°C	2-8°C
Rapid RSV	Nasal aspirate, nasal washing, NP swab	VCTM, sterile container	2-8°C	2-8°C
Rapid Strep	Throat swab	Sterile container & swab transport	< 2 hrs at RT	< 24 hrs at RT
Serum Bactericidal Level	Patient's isolate and peak or trough serum	6ml red topped clot tube	Separate and freeze serum	< 24 hrs frozen
<i>Strep pneumoniae</i> Urinary Antigen	Urine	Sterile container	RT < 24 hrs	2-8°C
Wet Prep	Vaginal swab	Saline tube	< 30 min at RT	< 30 min at RT

ADDITIONAL INSTRUCTIONS FOR SPECIFIC COLLECTIONS

Blood

Label the containers with appropriate information as specified previously.

A blood culture normally consists of two bottles of blood, one aerobic and one for anaerobic culture. If the complete set is not possible, a "set" may consist of only the aerobe (light green-topped) bottle or in the case of pediatric patients, a Peds bottle. **Volume is critical.**

Type	Optimal Volume
Aerobic	8-10 ml
Anaerobic	8-10 ml
Pediatric	1-4 ml

1. Collection of specimens before treatment is initiated is most desirable, if possible.
2. Collect two-three sets early in the illness.
 - a. For the diagnosis of sepsis in the acutely ill patient, draw 2-3 sets from different sites at least 20 minutes apart.
 - b. For the diagnosis of infective endocarditis, if acutely ill, draw 3 sets at 15-30 minute intervals before administering antibiotics. If subacutely ill, draw 3 sets over a 24 hour period.
 - c. For diagnosis of sepsis in an intensive care unit patient, draw 2 sets 10 minutes apart from different sites, followed by another 2 sets 24 hours later.

3. Do not use pediatric bottles on adults. If you only have the minimum amount of blood collected from an adult, submit only the aerobic (light green-topped) bottle. **Pediatric bottles should only be used on pediatric patients or extremely difficult sticks, where it is not possible to draw more than 3 ml.**
4. Do not overfill bottles.
5. Most cases of bacteremia are detected by using two-three sets of separately collected blood cultures. More than 3 sets yield very little additional information. Conversely, a single blood culture may miss intermittent bacteremia making interpretation of the clinical significance of a single draw very difficult.
6. Appropriate skin disinfection is critical.

Blood Culture Draw Procedure

1. Swab puncture site on patient's arm for a full 30 seconds using Chloraprep from the Blood Culture Prep Kit.
2. **Allow to dry (this will take about 30 seconds).**
3. Do **not** palpate the vein with finger after swabbing.
4. Do **not** place cotton over needle as you withdraw from vein (any contact may result in contamination of blood culture).
5. If blood cultures are ordered x2, draw all cultures on one trip but with **separate** sticks (this increases recovery of significant organisms).
6. Draw 20 ml of blood with a sterile syringe (adult patients).
7. Dispose of needle. Attach transfer device.
8. Do not overfill bottles.
9. **Immediately, before placing in culture bottle, swab lid with alcohol pad or equivalent.**
10. Dispense 10 ml of blood into the first blood culture bottle (light green-topped aerobic bottle) using a sterile transfer device.
11. Dispense the remaining blood (10 ml) into the second bottle (anaerobic bottle).
12. Do not inject air into the bottle.
13. In the case of a short draw, use the following algorithm:

1-4 ml	Use Pediatric bottle
5-10 ml	Use green (aerobic) bottle
11-14 ml	Use 8 in green/remainder in purple
15-20 ml	Use both green and purple (full set)

14. If more than 10mls are drawn but not 20 mls, it should be distributed to meet the **optimum requirements (8-10 mls)** for the **aerobe** bottle and meet **the minimum (3 mls) in the anaerobe bottle**. So, for example, if 12 mls are drawn, put 9 in the light green-topped aerobe bottle and the remaining 3 in the anaerobe bottle.
15. The pediatric bottle should only be used with pediatric patients (< 7 years old) or other patients with very difficult veins.
16. When using a peds bottle on an adult, please specify reason on the label or in Ulticare.
17. If it is necessary to draw above an I.V., please obtain a physician's order to turn off the I.V. for drawing.
18. **Do not draw blood cultures above an I.V. with antibiotics running!**
19. Label bottles with patient's name, room number (if appropriate), and time of collection. **DO NOT COVER THE BARCODE WITH LABELING!**
20. Place bottles in biobag for transport to the laboratory. Transport immediately to the Microbiology department. DO NOT refrigerate; leave at room temperature.

CSF Specimens

Since some organisms isolated from CSF are harmed by cold temperatures, these specimens should be stored at room temperature and transported as *soon as possible* to Microbiology.

Any CSF specimen that is received for Virus culture *ONLY* should be stored in refrigeration.

Upper Respiratory Tract

1. Label the containers with appropriate information requested above.
2. Specimens are collected from nasopharyngeal area and the throat.
3. A nasopharyngeal or post-nasopharyngeal culture, commonly referred to as a PNP, is obtained by inserting a thin sterile swab gently through the nose to touch the portion of the pharynx above the soft palate. Once resistance is felt, gently rotate slightly, leave in place a few seconds, and remove.
 - a. Specimens for *Bordetella pertussis* (causative agent of 'whooping cough') should be put into the transport containing "black" gel.
 - b. Specimens for virus culture should be placed into the transport containing a "pink" liquid. For Rapid RSV or Rapid Influenza testing, place swab in 1 ml sterile saline.
 - c. Specimens for routine bacterial culture should be placed into the transport with a "clear" gel.
 - d. Refer to chart for transport/holding temperatures.

4. A throat culture is obtained by introducing a sterile swab into the mouth. (Transports usually contain 2 swabs. Both can be used AT THE SAME TIME. You don't always get a second chance especially with children!) A tongue blade may be used to hold the tongue down, thereby opening the area for swabbing. The blade also helps to avoid contaminating the specimen with oral secretions. Firmly swab both tonsillar fossae ('tonsils' or area where they would be in cases where they have been removed), posterior pharynx (back of throat), and any inflamed or ulcerated areas. (Hint: Sometimes in the uncooperative child, it helps to have them 'pant like a puppy'. This causes the area to 'open', allowing access to the throat.)
 - a. Specimens for a "routine" throat culture should be placed into the transport containing the "clear" gel.
 - b. Specimens for a Rapid Strep A, should have one swab placed into a "routine" transport and one swab placed into a clean sterile tube (nothing in the tube).
 - c. Specimens from the throat are not usually the best specimen for virus cultures, but if requested, put the swabs in the "pink" virus transport.
 - d. Refer to chart for transport/holding temperatures.

Lower Respiratory Tract - Sputum

1. Label the containers with appropriate information requested above.
2. Rinsing the mouth with saline or water (NOT mouthwash) may reduce contamination with oropharyngeal flora.
3. Encourage a deep cough with expectoration of the sputum into a sterile specimen collection cup that is labeled with the patient's name.
4. Do NOT send saliva (spit) for culture.
5. When the patient is unable to cough productively, notify the physician. He may wish to use an alternative method for collection.
6. Specimens should be stored in a refrigerator until transport to Microbiology is possible.

Wound Cultures

1. Label the containers with appropriate information requested above.
2. Wound cultures are usually requested for Aerobic (Routine) and/or Anaerobic cultures with or without a gram stain.
3. Using a sterile bacterial culture collection system, introduce deeply enough to obtain a moist specimen; replace the swab in the container.
4. Room temperature storage is acceptable for a short time. Refrigeration may be harmful to *Neisseria sp* and anaerobes. Therefore, wound cultures should be transported to Microbiology as soon as possible.

Urine for Culture

1. Label the containers with appropriate information requested above.
2. For a clean-catch urine:
 - a. Explain carefully to patients the mechanics of midstream collection and the importance of collecting an uncontaminated specimen. Teach them how to handle the specimen container to keep it sterile.
 - b. A clean-catch specimen is necessary to confirm the presence of absence of infecting organisms in urine. The specimen must be free of any contaminating matter that might be present on the genital organs; therefore, patients should be urged to follow the steps outlined below:

Instructions for the Female patient:

- 1) If you are menstruating, first insert a fresh tampon or use cotton to stop the flow.
- 2) Separate the skin folds around the urinary opening.
- 3) Wash the urinary opening and its surroundings from front to back with a sterile antiseptic pad.
- 4) Begin urinating into the toilet, making sure you keep the skin fold apart with the fingers of one hand.
- 5) Wait until the urine stream is well established before moving the container into the path of the stream to catch the rest of the urine. Do not touch the container to the genital area.

Instructions for the Male patient:

- 1) Wash the end of the penis well with soapy water. Let dry.
 - 2) Begin urinating into the toilet. Wait until the urine stream is well-established before moving the container into the path of the stream to catch the rest of the urine. Do not touch the container to the genital area.
3. Cleansing agents, such as soap or detergent, must be rinsed away from the urethral area before the specimen is collected.
 4. Urine for culture must be transferred to a urine transport tube that contains preservative (gray-topped vacutainer tube) immediately after collection. Be sure to transfer the amount specified on the tube. Specimens should be stored in a refrigerator until transport to Microbiology is possible.

Stools

Routine Stool Culture

1. Label the containers with appropriate information requested above.
2. A small amount is all that is required, about the size of a walnut. If several different types of cultures are requested, submit a walnut-sized sample for each. Place the specimen in stool culture transport (clean sterile vial).

Stool for *Clostridium difficile* Toxin

1. Label the containers with appropriate information requested above.
2. Stool is collected into a clean sterile container. Refer to collection instructions for O&P for complete instructions for collecting a stool into a clean sterile cup or vial. (Preservative container is not required unless O&P is also requested.) **Refrigerate**. Transport to Microbiology as soon as possible.

Stool for O&P

1. The O&P transport container pack consists of 2 vials-one clean, sterile vial and one with a preservative (SAF).
2. Label the containers with appropriate information requested above.
3. Collect a small amount as above and put into the clean sterile container. Collect another aliquot sufficient to bring the liquid level of the preservative in the container up to the “Fill to Here” line. This will result in approximately 5 ml of sample.
4. Agitate the specimen with the spoon along the sides of the container, tighten the cap and shake firmly to insure that the specimen is adequately mixed. When the mixture is completed the specimen should appear homogenous.
5. Return the vials to their container (bio-bag), seal the bag and transport to Microbiology.
6. Specimens can be stored in a refrigerator until transport to Microbiology.

Patient Instructions for Stool (Fecal) Collection for Ova and Parasites (O&P) (also used for Cryptosporidium/Giardia Antigen)

(This is available as a handout for patients.)

This test has been ordered by your physician. Please follow instructions for proper specimen collection.

You have been given a collection kit consisting of one vial containing 15 ml of a fixative with a built-in collection “spoon” and one sterile empty vial with a “spoon”.

1. Mark container with patient’s full name, social security number, date of collection, and physician name.
2. You should not use antacids, barium, bismuth, antidiarrheal medication, or oily laxatives prior to collection of the specimen. (Specimen collection should be delayed 5 to days after barium, at least 2 weeks after antibiotics, and at least one week after antacids, laxatives, bismuth or antidiarrheals.)
3. Your physician may have requested up to three stool (fecal) specimens to assure recovery of parasitic elements which are passed intermittently. These should be collected from stools passed on different days.
4. The stool specimen **MUST NOT** be contaminated with urine.

5. A large plastic bag or “saran wrap” may be placed over the toilet seat opening and the specimen passed into the saran wrap or bag. A thoroughly cleaned and dried milk carton, cut so as to remove the upper two thirds of the carton may also be used. It will be easier to collect the specimen if the water supply to the toilet is shut off and water drained from the bowl by “flushing twice”.
6. An appropriate (such as bloody, mucoid, or watery) area of stool should be selected and sampled with the collection spoons provided in the caps of the containers. Sufficient stool is added to each container to bring the liquid level up to the “Fill to Here” line. This will result in approximately 5 ml of sample.
7. Agitate each specimen with the spoon along the sides of the container, tighten the cap and shake firmly to insure that the specimen is adequately mixed. When mixing is completed the specimen should appear homogenous (evenly mixed).
8. Return the vials to the bio-bag, seal and deliver to the Outpatient Location you have visited.
9. Specimens for O&P or Crypto/Giardia antigen can be stored in a refrigerator until transport.

Stool for Guaiac-based Occult Blood Testing

Refer to the patient instruction sheet.

Instructions for Using Occult Blood Slides (patient instruction sheet available as handout to patient)

This test has been ordered by your physician. Please note special instructions in your packet.

For accurate test results, apply samples from bowel movements collected on 3 different days.

1. Write your name, age, social security number, and address on the front of each slide.
2. After a bowel movement, open one of the cover flaps. With one of the wooden applicators, collect a small sample of feces from the toilet bowl.
3. Spread a thin smear of sample covering area A. Collect a second sample from a different part of the stool with the same wooden applicator. Spread the sample in area B in the same manner as above. Discard wooden applicator in waste receptacle.
4. Close the cover. Fill in the date on cover.
5. Repeat steps 2-4 until you have completed 3 slides. Mail the slides in the foil lined envelope supplied. Be sure to attach postage.

Precautions:

DO protect slides from heat.

DO NOT collect specimens during menstrual period or if you have bleeding hemorrhoids.

Special Diagnostic Diet for Guaiac-Based Occult Blood

You should be on this diet at least 3 days before you collect the first stool specimen. Aspirin and other non-steroidal anti-inflammatory drugs listed below should be avoided for 7 days before collection of specimen.

Remain on this diet until all Occult Blood Slides have been prepared.

<u>Foods to Avoid:</u>	<u>Drugs and Vitamins to Avoid:</u>	<u>Foods to Include</u>
Red meat (beef, lamb, etc)	Vitamin C (in excess of 250 mg daily)	Cooked fruits and vegetables
Turnips	Excessive amounts of citrus fruits or juices	Peanuts, popcorn, bran cereal
Horseradish	Aspirin and other non-steroidal anti-inflammatory drugs (including Ibuprofen and naproxen)	Fish and fowl

If any of the above items present possible problems to you, please consult your physician.

Rapid RSV EIA and Rapid Influenza A/B EIA

DO NOT PLACE SPECIMENS FOR VIRUS CULTURE RAPID, RSV or INFLUENZA A/B INTO ROUTINE TRANSPORT.

Swabs provided from Microbiology include Dacron or Rayon and are acceptable for any virus, routine and specialty cultures that may be requested. No cotton swabs or wooden shafts are used.

The preferred specimens for Rapid RSV and Rapid Influenza A/B are nasal aspirates and nasal washes; flocked-nasopharyngeal swabs are also acceptable. These can be transported in 1 ml saline. Placement of specimen into an empty, sterile container is acceptable. Transport ASAP to Microbiology.

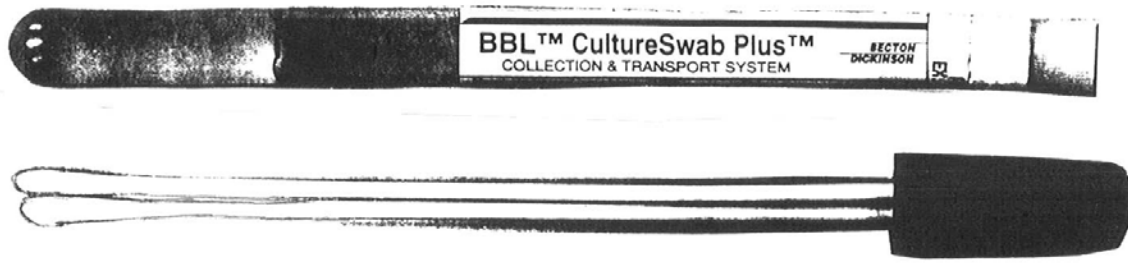
Virus Cultures

1. Virus cultures should be collected into Virus Transports. If a specimen is to be cultured for Herpes, cotton swabs should not be used.
2. Virus specimens (except CMV antigenemia) should be stored under refrigeration (2-8°C).
3. Urine Virus culture (for CMV) should be collected into a clean, sterile urine cup and stored in refrigerator.
4. Antigenemias or CMV blood cultures should be drawn into a 5 ml EDTA tube. These can be stored at room temperature until transported.

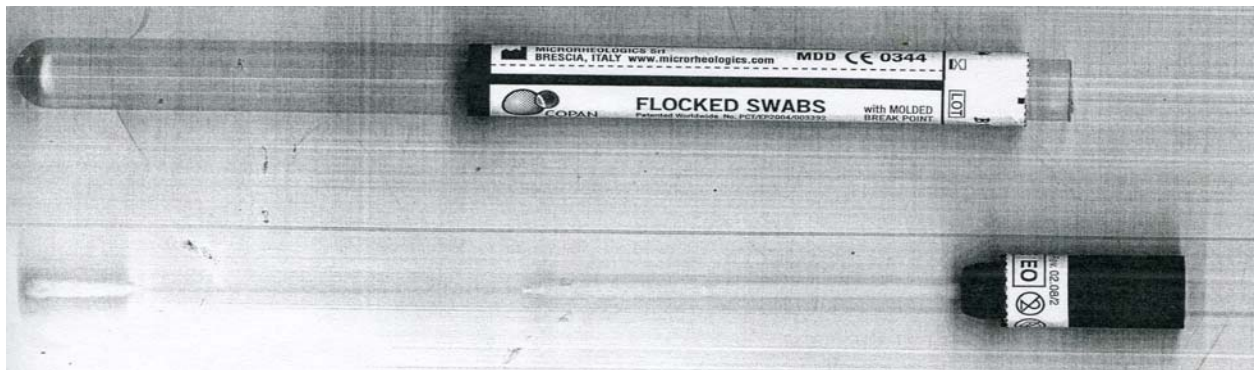
Miscellaneous Microbiology Cultures

Contact Microbiology at 918-918-494-1320 for special instructions if you cannot find instructions for a specific specimen type or organism suspected.

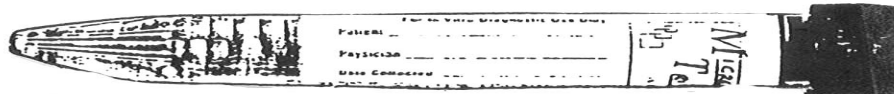
MICROBIOLOGY COLLECTION CONTAINERS



NASAL PHARYNGEAL (PNP) SWAB



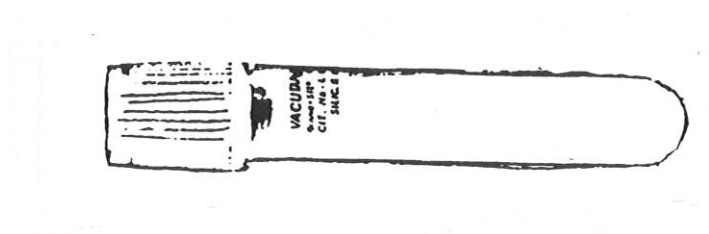
VIRAL TRANSPORT MEDIA



BLOOD CULTURE COLLECTION CONTAINERS



VIRAL BLOOD CULTURES
(Purple Top Vacutainer Tube)

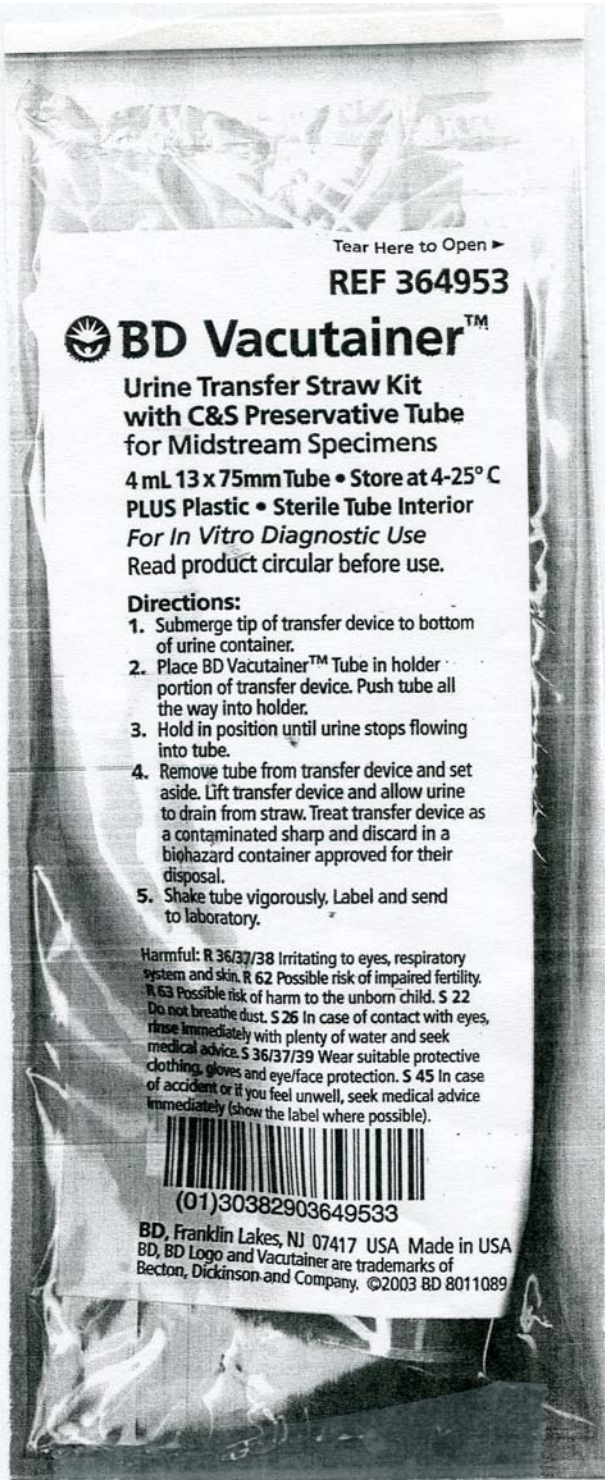


FUNGAL AND ACID FAST BLOOD CULTURES

MYCO/F LYTIC MEDIA



URINE CULTURE COLLECTION CONTAINER

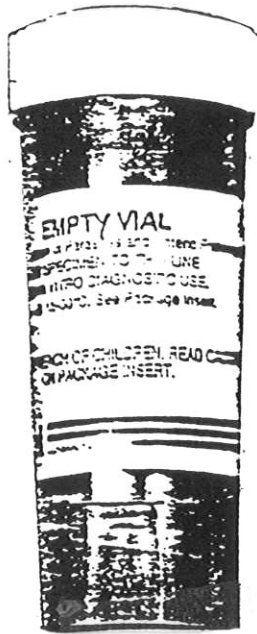


TRANSFER STRAW



GRAY-TOPPED BD VACUTAINER

OVA AND PARASITE CONTAINERS

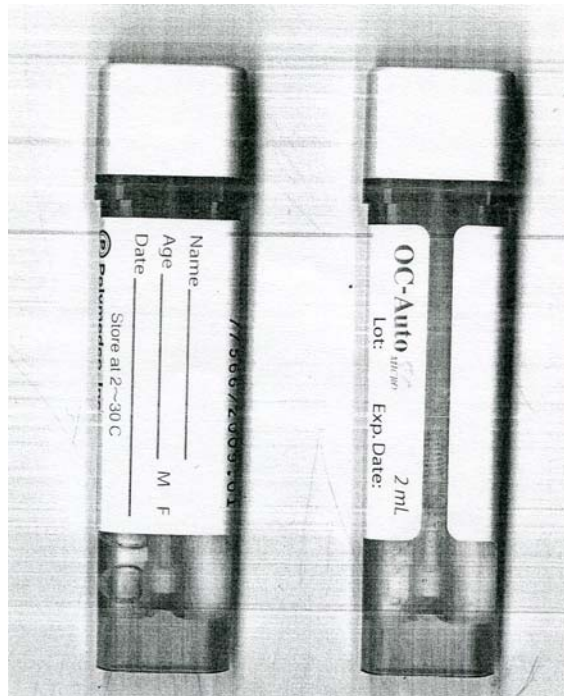


EMPTY VIAL



FIXATIVE VIAL

OCCULT BLOOD CONTAINERS



SPECIMEN TRANSPORT

COMPUTERIZED TUBE SYSTEM

Specimens may be transported to the laboratory through either the hospital-wide 4-inch tube system or the dedicated 6-inch system.

All specimens must be appropriately packaged in a leak-proof container and placed in a sealed ziploc specimen bag labeled as BIOHAZARD.

Insert requisition or extra computer label in outside pocket of specimen bag. Package each patient's specimens in a separate bag.

ALL tube carriers used for transporting laboratory specimens must contain a foam liner that will ensure immobility during transport. Specimens sent with ice need to be double-bagged.

Specimens and/or containers that are UNACCEPTABLE for transport in the computerized tube system are as follows:

1. Pathology and/or cytology specimens (These specimens must be hand-delivered to the laboratory and signed into the log book located in the specimen receiving window.)
2. Body fluids in bags; **DO NOT SEND FLUID IN GLASS BOTTLES TO LABORATORY.**
3. Specimens with needles attached
4. Non-leaktight containers
5. Unlabeled specimens
6. Blood products or components except with prior approval of the Transfusion Service

Specimens and/or containers that are ACCEPTABLE for transport in the computerized tube system are as follows:

1. Urine or stool in screw top plastic containers less than 120 ml.
2. CSF at the discretion of the sender. It is highly recommended that lids be taped.
3. Blood or body fluids in Vacutainers. Multiple tubes from one patient may be sent together.
4. Culture specimens in Culturettes or screw top sterile containers less than 120 ml.
5. Blood culture bottles, each placed in a separate biobag, inserted firmly into foam liner; only two bottles per carrier. Bottles must be placed with necks facing opposite ends.
6. Blood gas specimens in syringe with Luer Lock Tip in double bag with ice. **DO NOT SEND NEEDLE ATTACHED TO A SYRINGE.**
7. Glass slides in a slide holder.
8. Blood components in emergency situation per Transfusion Service policy. Call extension 16544 to request. Do not return empty blood bags in the tube system.

TEST RESULTS

Results of laboratory tests are released only to authorized persons or the individual responsible for utilizing the test results. Results are not available to patients unless specified by the physician.

COMPUTER REPORTS

Results of all laboratory testing are entered into Ulticare.

Results are available to authorized individuals through Ulticare.

Corrected Results

Whenever a result is corrected in Ulticare, the original result is accessible in Ulticare through the audit trail.

Ulticare will automatically identify the result as a CORRECTED RESULT, indicated by the word "Corrected" flashing in red in the status field of the Ulticare report.

TELEPHONE REPORTS

The laboratory does not routinely call all abnormal results, since about one third of the results are abnormal. Therefore, any value not exceeding critical limits, regardless of order priority (routine, ASAP, or STAT), will not be phoned unless specifically indicated to do so in order comments. HIV results are NEVER given by phone.

All critical values are called to the nurse in charge of the patient. When the patient is an Outreach patient, critical values are called to the ordering physician or on-call physician of record.

FAX REPORTS

Outpatient reports are transmitted by autofax to the admitting physician. If the report needs to be faxed immediately or to an additional physician, please indicate this information on the test requisition.

CRITICAL VALUES

LABORATORY

Critical test results require immediate notification of a licensed healthcare provider responsible for the patient's care. It is the joint responsibility of the reporting department and nursing personnel to communicate this information to the physician.

<u>Test Name</u> (neonate – birth to 30 days old)	<u>Low</u> (< less than)	<u>High</u> (> greater than)
International Normalized Ratio (INR)	None	≥ 5.0
Partial Thromboplastin Time (PTT)	< 20.0 seconds	≥ 100 seconds
Fibrinogen	< 49 mg/dL	None
Hemoglobin	(adult) ≤ 7.0 gm/dL (neonate) ≤ 10.0 gm/dL	None > 22.0 gm/dL
Platelet Count	(adult) < 30,000/cmm (neonate) < 100,000/cmm	> 900,000/cmm > 900,000/cmm
Glucose	(adult) < 50 mg/dL (neonate) < 50 mg/dL	> 450 mg/dL > 200 mg/dL
Carbon Dioxide	(adult) < 12 mmol/L (neonate) < 14 mmol/L	> 45 mmol/L > 30 mmol/L
Sodium	(adult) < 120 mmol/l (neonate) < 130 mmol/l	> 155 mmol/L > 150 mmol/L
Potassium	< 3.0 mmol/L	> 6.0 mmol/L > 6.5 mmol/L (heelstick)
Calcium	< 7.0 mg/dL	> 12.0 mg/dL
Ionized Calcium	< 0.82 mmol/L	> 1.55 mmol/L
Magnesium	(adult) < 1.5 mg/dL (neonate) None	> 7.0 mg/dL > 3.0 mg/dL
Phosphorus	< 1.2 mg/dL	> 9.0 mg/dL
pH	< 7.20	> 7.60
pCO ₂ , Arterial	< 20 mmHg	> 70 mmHg
pO ₂ , Arterial	< 40 mmHg	None
pO ₂ , Capillary	< 35 mmHg (heelstick)	
Blood Culture	Positive	
CSF Culture	Positive	
CSF Gram Stain	Positive	
Rapid HIV	Positive	
Transfusion Reaction	Laboratory Evidence of Acute Hemolytic Transfusion Reaction	

RADIOLOGY

New or Enlarging Hemorrhage (intracerebral, intra-abdominal/retroperitoneal or intrathoracic)
New or Enlarging Pneumothorax
Acute Thoracic Aortic Dissection or Actively Leaking Aneurysm
Previously Undiagnosed Spine Fractures
New or Worsening Spinal Cord Compression
Exams Demonstrating Pulmonary Emboli
Suspected Bowel Ischemia or Perforation
Suspected Ectopic Pregnancy
Suspected Testicular or Ovarian Torsion

CARDIOLOGY

Preliminary critical findings noted during testing to be interpreted by cardiologist prior to final report:

EKG	Acute MI Heart Rate less than 34 Sustained Ventricular Tachycardia
Echo Lab	Suspected Cardiac Tamponade Severe Regurgitation associated with new vegetation on heart valve or flail mitral leaflet Aortic dissection
Vascular Lab	Pseudoaneurysm Deep Venous Thrombosis
Pacemaker Lab	End of Life Rate

THERAPEUTIC DRUGS

<u>Drug</u>	<u>Therapeutic Range</u>	<u>Critical</u>
Gentamicin	Trough 0.5-2.0 µg/mL Peak 4.0-10.0 µg/mL	Trough > 2.0 µg/mL Peak > 12.0 µg/mL
Tobramycin	Trough 0.5-2.0 µg/mL Peak 4.0-10.0 µg/mL	Trough > 2.0 µg/mL Peak > 12.0 µg/mL
Amikacin	Trough 5.0-8.0 µg/mL Peak 25-35 µg/mL	Trough > 8.0 µg/mL Peak > 35 µg/mL
Vancomycin	Trough 5.0-10.0 µg/mL Peak 20-40 µg/mL	None Peak > 80 µg/mL
Salicylate	15-30 mg/dL	> 30 mg/dL
Carbamazepine	8-12 µg/mL	> 12 µg/mL
Phenobarbital	15-40 µg/mL	> 65 µg/mL
Phenytoin	10-20 µg/mL	> 25 µg/mL
Valproic Acid	50-100 µg/mL	> 175 µg/mL
Lithium	0.6-1.4 mmol/L	> 1.5 mmol/L
Cyclosporine	150-300 ng/mL	> 450 ng/mL
Tacrolimus	7-19 ng/mL	> 25 ng/mL
Theophylline	10-20 µg/mL	> 25 µg/mL
Digoxin	0.9-2.0 ng/mL	> 2.5 ng/mL

References:

1. Clinical Pharmacokinetics
2. Lexicomp
3. Micromedex
4. Clinical Laboratory Reference (MLO, 2004-2005)

POINT OF CARE (NEAR PATIENT) TESTING

Point of Care (POC) laboratory testing refers to those analytical patient activities provided within the institution, but performed outside the physical facilities of the clinical laboratories.

Activities of the Point of Care testing program must comply with all current standards established by College of American Pathologists (CAP), Joint Commission on Accreditation of Healthcare Organizations (JCAHO), and Clinical Laboratory Improvement Act (CLIA), regardless of site of testing.

The laboratory oversees the Point of Care testing program and advises nursing personnel of changes in regulatory requirements.

Waived laboratory testing, as defined by CLIA, is under the direction of nursing personnel. Non-waived testing is under the direction of laboratory personnel.

<u>TEST</u>	<u>LOCATION</u>	<u>RESPONSIBILITY</u>	<u>REGULATIONS</u>			
			<u>CLIA Waived</u>	<u>CLIA Mod</u>	<u>CAP</u>	<u>JC</u>
<u>WAIVED</u>						
Glucose	Nursing Units Health Promotion	Patient Care Svcs	X			X
Gastric pH	Peds, PICU	Patient Care Svcs	X			X
Hemoglobin	OPS	Patient Care Svcs	X			X
Occult Blood	TEC	Patient Care Svcs	X			X
UA-Dipstick	TEC	Patient Care Svcs	X			X
UA-Dipstick Protein	L&D	Patient Care Svcs	X			X
UA-Pregnancy	Natalie ASC	Patient Care Svcs	X			X
Cholesterol, HDL, Trig	Health Zone	Patient Care Svcs	X			X
Strep Screen	TEC	Laboratory	X		X	X
Nitrazine pH	L&D	Patient Care Svcs	X			X
<u>PROVIDER PERFORMED MICROSCOPY</u>						
Fern Test	L&D, 2 Wst	Physician				PPM
Wet Prep	L&D, 2 Wst	Physician				PPM

<u>TEST</u>	<u>LOCATION</u>	<u>RESPONSIBILITY</u>	<u>REGULATIONS</u>			
			<u>CLIA Waived</u>	<u>CLIA Mod</u>	<u>CAP</u>	<u>JC</u>
<u>NON-WAIVED</u>						
ACT	Heart Cath Surgery, PICU, NICU, CCU, CAD	Laboratory		X	X	X
Blood Gases/Na, K, iCa, Lactic Acid	PICU CCU ICU NICU TEC	Laboratory		X	X	X
Na, K, H&H	Natalie ASC NICU	Laboratory	X		X	X
Oxyhemoglobin, Methemoglobin, Carboxyhemoglobin	NICU, PICU TEC	Laboratory		X	X	X
Blood Gases/Na, K, Ion Ca, H&H, Gluc, Lactic Acid	Surgery	Laboratory		X	X	X
Blood Gases/Gluc	NICU Transport	Laboratory	X	X	X	X
O ₂ Sat	Heart Cath	Laboratory		X	X	X
Creatinine	Radiology	Laboratory	X		X	X
Serum hCG	Radiology	Laboratory		X	X	X
INR	Natalie ASC	Laboratory		X	X	X

TRANSFUSION SERVICES

Saint Francis Hospital maintains an extensive Transfusion Service with blood and blood components provided by the Oklahoma Blood Institute.

PRETRANSFUSION ORDERS AND TESTING

Requests for Transfusion Services should be transmitted to the laboratory. Select the tests or components ordered by the physician. Include special instructions when appropriate.

ABO grouping, Rh typing, and antibody screening must be performed on a blood specimen from any recipient four months of age or older receiving red blood cell containing components. The pretransfusion specimen must be collected within:

- * three days of the anticipated transfusion if the intended recipient has been transfused or pregnant within the preceding three months.
- * fourteen days of transfusion if the intended recipient has not been transfused or pregnant within the preceding three months.

Recipients less than four months of age receiving red blood cell containing components require pretransfusion testing once each admission.

Recipients receiving platelets, fresh frozen plasma, or cryoprecipitate require only an ABO group and Rh.

SPECIMEN AND PATIENT IDENTIFICATION

Recipients four months of age or older receiving red blood cells are required to wear a Blood Bank Identification Bracelet containing a unique number that is identical to the number on their blood specimen in the Transfusion Service.

Specimens for pretransfusion testing may only be collected by hospital personnel authorized by the Transfusion Service. A specimen will not be used for testing unless the identification information on the specimen is identical to the admission information. Contact the Transfusion Service prior to collection to determine if a new specimen is required.

Specimens not intended for pretransfusion testing do not require the patient to wear a Blood Bank Identification Bracelet.

URGENT NEED FOR BLOOD COMPONENTS

In life-threatening situations, the Transfusion Service will provide uncrossmatched red blood cells prior to the completion of pretransfusion testing for any patient at the request of the physician.

INDICATIONS FOR BLOOD COMPONENT TRANSFUSION

The proper use of blood components depends on the informed assessment of the relative risks and benefits in a given clinical setting. The increased awareness of potential complications of blood transfusion has resulted in increased attention to the proper indications for transfusion.

Red Blood Cell Indicators

Hemoglobin Level

< 8.0 gm/dl

< 9.0 gm/dl

< 10.0 gm/dl

The primary indication for the transfusion of red blood cells (RBC's) is to restore or maintain an adequate supply of oxygen to meet tissue demands.

Platelet Indicators

<u>Platelet Count</u>	< 10,000/ μ l	for adults
	< 20,000/ μ l	for pediatric patients and bone marrow transplant recipients
	< 50,000/ μ l	for a pre-op patient or one who is actively bleeding
	< 100,000/ μ l	for the control of intraoperative bleeding

The primary indication for the transfusion of platelets is to aid in the initial cessation of hemorrhage from damaged vessels. Platelets are used in the treatment of bleeding due to thrombocytopenia or abnormal platelet function.

Plasma Indicators

Abnormal INR Result from Protime (PT)

PTT Result -> 1.5 times the mean reference value

The primary indication for transfusion of plasma (FFP) is to facilitate coagulation in patients with deficiencies of multiple coagulation factors.

Cryoprecipitate Indicators

Fibrinogen Level - < 100 mg/dl

Factor VIII Activity - < 30%

The primary clinical use of cryoprecipitated AHF (Cryo) is to supplement deficiencies in fibrinogen, von Willebrand factor, Factor VIII, and Factor XIII.

SPECIAL BLOOD COMPONENTS

CMV Seronegative Components

Indications	Birth weight equal to or less than 1250 gm Recipients of exchange transfusions Transplantation with seronegative bone marrow/stem cell, kidney, or heart Candidates for bone marrow/stem cell transplantation Infected with the human immunodeficiency virus
Availability	Twenty-four (24) hours; may need to be ordered from Oklahoma Blood Institute; may not be type specific

Leukocyte Reduced Components

All red cell-containing components are pre-storage, leukoreduced components (filtered by the blood supplier).

Availability Twenty-four (24) hours

Irradiated Components

Irradiation reduces the risk of transfusion-associated graft vs. host disease.

Indications Immunoincompetent or immunocompromised recipients
Bone marrow/stem cell transplant recipients or candidates
Recipients with hematological malignancies
Recipients of cellular blood components donated by blood relatives
Infants less than four months of age
Exchange transfusions of infants

Availability Twenty-four (24) hours; irradiation requires approximately 10 minutes for preparation of each blood component

Platelet Pheresis

A platelet pheresis has the advantage of representing only one donor exposure. A platelet pheresis is equivalent to 6-10 random platelet concentrates.

Indications Treatment of bleeding due to thrombocytopenia or to the presence of functionally abnormal platelets

Availability Twenty-four (24) hours; may need to be ordered from Oklahoma Blood Institute; may not be type specific

Crossmatched Platelet Pheresis

Indications Patients who are unresponsive to random platelet pheresis components

Availability Monday through Friday, with 24 hours notice

Autologous/Directed Donor Blood

All autologous and directed donor units are collected by Oklahoma Blood Institute or another blood supplier. They usually require a minimum of three working days to process.

Autologous Blood

Autologous blood is usually ordered by the physician's office and donated prior to admission. Autologous units are not for general use and will be destroyed upon expiration.

Directed Donor Blood

Directed donor blood components must be ordered by the physician.

All directed donors must meet the same requirements for blood donation as volunteer blood donors.

Transfusion Reactions

Transfusion of blood and blood components is ordinarily a safe and effective means of correcting hematologic deficiencies, but untoward results may occur. These adverse effects are commonly called "transfusion reactions." Transfusion reactions can occur during, immediately after, or many days after the transfusion of blood and/or blood components.

Any adverse symptom or physical sign occurring during the transfusion of blood or its components should be initially considered as a potentially life-threatening reaction.

If an adverse symptom or physical sign does occur, the Transfusion Service will request a blood specimen be collected if the suspected blood component contains red blood cells. Specimen testing and visual observations are performed to detect signs of a hemolytic reaction.

HISTOCOMPATIBILITY (HLA) SERVICES

The HLA Laboratory provides histocompatibility testing services for transplantation, platelet transfusions, and disease association studies, as well as other needs by special arrangement. Tests include HLA-A, B, C typing, HLA-DR, DQ typing, HLA antibody screening and identification, and lymphocyte crossmatches.

The HLA Laboratory is open Monday through Friday, 0800-1730. Personnel are available 24 hours a day for organ donor typing and crossmatch needs. Contact the Main Laboratory office (ext. 11300) to page the technologist on call.

Specimen Requirements (10 years of age or older)

HLA-A, B, C typing:	20 ml ACD (yellow top tube) blood
HLA-DR, DQ typing:	20 ml ACD (yellow top tube) blood
HLA antibody screening (PRA):	7 ml clotted (red top tube) blood
Crossmatch:	50 ml ACD blood, 7 ml clotted blood

Blood counts should be provided to the laboratory, if available. For children under the age of 10, call the laboratory (ext. 11300) for specimen requirements.

Organ Donor Procedure

If a possible organ donor situation arises, a transplant coordinator at LifeShare of Oklahoma should be contacted at (918) 747-8214. The laboratory does not coordinate organ donors.

FLOW CYTOMETRY SERVICES

Immunophenotyping is commonly used to characterize cells to assist in the diagnosis of various disease states, including leukemias, lymphomas, and infectious diseases. CD4 and CD4/CD8 counts are ordered on patients that are immunocompromised and to monitor levels in patients with conditions that affect this cell line. The Lymphocyte Profile is a more complete test that enumerates all of the lymphocyte subsets (T cells, B cells, and NK cells). Stem cell counts are performed on patients and donors to determine the level of these cells before transplantation. PNH testing is also performed in the Flow Cytometry Laboratory.

The Flow Cytometry Laboratory is open Monday through Friday, 0800-1630. Fresh specimens are necessary (preferably less than 24 hours old, but may be accepted up to 72 hours after collection).

Immunophenotyping Specimen Collection

Specimen

Collection Information

Body Fluids (e.g., pleural, peritoneal)

Place in EDTA tube.

Bone Marrow Aspirate

Collect 1-2 ml and place in EDTA tube. Specimen must be kept at room temperature. Fresh specimens are necessary (less than 24 hours old).

Bone Marrow Biopsy

Place in saline; after cell prep is made, bone can then be used in Histology.

CSF	Submit specimen in collection container.
Fine Needle Aspirate (FNA)	Place specimen in POG RPMI found in Hematology or Cytology. (RPMI media contains heparin to prevent clotting of specimen.) Media is frozen; thaw before use. Store specimen in refrigerator.
Leukapheresis	Specimen is obtained from dialysis on peripheral blood stem cell patients for CD34 analysis. Place about 0.5 ml of specimen in EDTA Microtainer or plain test tube. Specimen must be kept at <u>room temperature</u> .
Peripheral Blood	Collect in EDTA Vacutainer, 2 ml minimum. Specimen must be kept at <u>room temperature</u> .
Peripheral Blood for CD3 (Heart Transplant)	Heart transplant patients ONLY. Collect in EDTA Vacutainer. Specimen must be kept at <u>room temperature</u> . Test performed on patients being treated for rejection.
Solid/Soft Tissue (e.g., lymph node)	Place specimen in a container of RPMI media and <u>refrigerate</u> .

ANATOMIC PATHOLOGY SERVICES

Anatomic Pathology (includes Histology, Cytology, and Immunohistochemistry) provides a full range of diagnostic services for pathologic diagnosis and foreign body documentation (bullets, orthopedic hardware).

The Pathology Department is open Monday through Friday, 0730-1700. A pathologist and histologist are available 24 hours a day for after hours procedures. Advance notice is requested when possible.

SPECIMEN DELIVERY

Specimens removed during a surgical procedure in a surgical suite are ordinarily delivered to pathology via the surgery window for evaluation. Specimens identified as exceptions to this procedure should be documented in the operative report.

Surgical specimens, cytology specimens, and placentas obtained from patients not in surgery should be delivered to the laboratory specimen receiving area, recorded in the pathology specimen log, and placed in the designated under-counter refrigerator.

TEST ORDERS

Anatomic Pathology may be ordered in Ulticare or sent with a legibly completed manual requisition.

Minimum patient information required:

- Patient first and last name; no nicknames or abbreviations
- Patient hospital case number and medical record number, if available
- Patient room number or requesting location
- Requesting physician and attending physician
- Patient sex and age/date of birth

Patient demographic information should be provided by use of a computer label (preferred) or a legibly imprinted addressograph stamp. The preoperative/admission diagnosis, ordering physician, specimen identity (source of specimen), and pertinent patient history are necessary to assure accurate reporting.

SPECIMEN INFORMATION AND LABELING

Specimen containers with formalin or other fixatives are provided by the laboratory. All surgical and cytology specimens should be placed in the appropriate fixative.

Label all specimen containers with complete, accurate, and legible patient and specimen information at the time of collection/removal.

Information on the specimen container and the number of specimens must match information on the requisition. Any discrepancy will require immediate assistance from the department submitting the specimen. If the discrepancy cannot be resolved, the pathologist will contact the surgeon. Completion of an "Irretrievable Specimen Collection" form will be required for mislabeled specimens.

SPECIMEN RELEASE

Surgical specimens or explants may be released to the patient one week following removal. Contact the Pathology office (ext. 11420) Monday through Friday, 0730-1700, in order to retrieve and prepare specimens for release prior to patient arrival. A "Specimen Release" form, including handling precautions, must be signed by the patient or patient representative prior to release.

SURGICAL SPECIMEN COLLECTION

Routine Tissue Examination

Fixative: 10% formalin

Directions: Place specimen in plastic container with formalin. The optimal ratio of formalin to tissue is 10:1. Formalin must at least cover any large specimen.

Frozen Section Examination

Fixative: No fixative

Directions: Deliver fresh specimen directly to Histology. Contact the Main Laboratory Office (ext. 11300) for frozen sections after 5:00 PM or outside the hospital.

Electron Microscopy

Fixative: Glutaraldehyde

Directions: Obtain container with glutaraldehyde from Histology. Place specimen in container and deliver immediately to Histology. DO NOT LEAVE AT LAB OFFICE.

Immunofluorescence/Flow Cytometry

Fixative: No fixative (if flow cytometry is needed, collect in RPMI)

Directions: Deliver fresh specimen directly to Histology.

Gastric/Colon Biopsy

Fixative: 10% formalin

Directions: Place specimen in small container filled with Holland's fixative. Deliver to laboratory specimen receiving area. DO NOT HOLD UNTIL END OF THE DAY.

Bone Marrow Aspirations

Fixative: B Plus fixative for biopsy; formalin for aspirate

Directions: Deliver bone marrow specimens to Hematology; Hematology technologists will place the specimen in the proper fixative and take it to Histology for processing.

Renal Biopsy

Fixative: No fixative

Directions: Deliver fresh specimen directly to Histology. Advance notice is requested.

Heart Biopsy

Fixative: 10% formalin or no fixative

Directions: Deliver specimen directly to Histology. Advance notice is requested.

Muscle Biopsy for Special Stains

Fixative: No fixative

Directions: Deliver fresh specimen directly to Histology. Advance notice is requested due to required special handling.

Peripheral Nerve

Fixative: No fixative

Directions: Deliver fresh specimen directly to Histology on a saline-soaked gauze. DO NOT place in saline.

Placentas

Fixative: No fixative

Directions: Place placenta in a clean container and deliver fresh to the laboratory specimen receiving area. Patient name, type of specimen, date/time, and deliverer's initials are to be logged in the Pathology Specimen Logbook. If unable to deliver placentas to the laboratory, refrigerate. Laboratory personnel will pick up the placentas Monday through Friday and either Saturday or Sunday.

Products of Conception

Fixative: Fresh if genetics is needed; 10% formalin for routine processing

Directions: Place specimen in plastic container with formalin. The optimal ratio of formalin to tissue is 10:1. Formalin must at least cover any large specimen.

Stones

Fixative: No fixative

Directions: Place stone in clean container and deliver to laboratory specimen receiving area.

Bullets

Bullets are brought to the laboratory by a Surgical Nurse and given to a histologist or night supervisor.

The person receiving the bullet must sign the Chain of Custody form, noting receipt of the bullet.

If a pathologist is not available, the bullet must be locked in a special cabinet.

The bullet must never leave the hands of the person signing the Chain of Custody form or pathologist unless locked in order to maintain valid, court acceptable evidence of continuity of possession.

CYTOLOGY SPECIMEN COLLECTION

Female Genital Tract (PAP Test)

Fixative: ThinPrep Pap Test vial (methanol mixture) – Call Lab for Pap Test Kits

Directions: **Cervical Sampling Obtained by Broom-Like Device:** Obtain an adequate sampling from the cervix using a broom-like device. Insert central bristles of the broom into the endocervical canal deep enough to allow shorter bristles to fully contact ectocervix. Push gently and rotate the broom in a clockwise direction (5) times. Rinse the broom as quickly as possible into the ThinPrep Pap Test Vial by pushing the broom into the bottom of the vial (10) times forcing the bristles apart. As a final step swirl the broom vigorously to further release material. Discard the collection device. Tighten the cap so the black torque line on the cap passes the black torque line on the vial. Always record the patient's name and ID# on the vial or use an appropriate patient label. Patient information (such as LMP, abnormal bleeding etc.) and medical history should also be submitted along with the pap test.

Cervical Sampling Obtained by “Combo” Collection Devices (Endocx Brush and Plastic Spatula): Obtain adequate sampling from the ectocervix and rinse in the ThinPrep Pap Test Vial by swirling the spatula vigorously in the vial (10) times. Discard spatula. Obtain adequate sampling from the endocervix using the endocervical brush device. Insert brush into cervix until only bottom-most fibers are exposed. Slowly rotate ¼ to ½ turn in one direction. **Please do not over-rotate.** Rinse as quickly as possible in the ThinPrep Pap Test Vial by rotating the device in the vial 10 times while pushing against the ThinPrep Pap Test Vial wall. Swirl the brush vigorously to further release the material. Discard the collection device.

Direct Scraping of any Superficial Lesion to include Oral Mucosa and/or Tzanck Prep

Fixative: Place direct scraping into PreservCyt container. Please call Lab for fixative and collection device.

Directions: If lesion is ulcerated or crusty, please soak the margins of the lesion with a saline-soaked sterile gauze then remove and discard the necrotic and keratinized debris. Best specimens are obtained from the growing margins of the lesion, not from the necrotic center. Abrade the growing margins of the lesion with the rounded end of the plastic spatula. Rinse immediately into the PreservCyt container. Label appropriately the vial with the patient's name and/or Patient ID adhesive label. Please include the source site(such as Tzanck smear, oral lesion) and any clinical or diagnostic information available.

Body Cavity Fluids: (Pleural, Pericardial, Peritoneal/Abdominal/Ascitic, Synovial/Joint Fluid and Cyst Fluid)

If microbiology and/or chemistry tests are ordered (in addition to cytology studies), please extract the required amount of specimen for these particular tests. Send the remainder of the specimen – without the addition of Heparin – to the Laboratory. Please do not send an abbreviated or small portion of the original amount of fluid. It is encouraged to send as much of the fluid/specimen as possible for cytologic evaluation up to a maximum amount of (3) liters or 3,000 ml's.

Fixative: No fixative or anticoagulant; **Send Fresh.** Please refrigerate if there will be significant time delay.

Directions: Send the properly labeled specimen container(s) to the Hospital Laboratory. If working within a paperless system, please insure that the fluid container is properly identified with a patient ID label and source of specimen. It is encouraged to send the specimen as rapidly as possible to the Hospital Laboratory for appropriate fixation procedures as it applies. Significant time delay is greatly discouraged. If additional tests are ordered, collection requirements, **prior to submitting to Cytology,** are as follows:

<u>Culture:</u>	Sterile container (approx. 10-20 ml)
<u>Cell Count:</u>	Lavender top Vacutainer tube (EDTA)
<u>pH or other Chemistries:</u>	Green top Vacutainer tube (Heparin)

LABORATORY INSTRUCTIONS:

- For specimens under 100 ml – add 30 ml's of CytoLyt (equivalent to one full depression of the plunger apparatus). Heparin should not be added. Please refrigerate specimen.
- No fixation required on specimens of 100 ml's or more. Heparin should not be added. Please refrigerate immediately. Time delays of 24 hours or more are discouraged. Delivery to the processing laboratory as soon as possible will greatly benefit the examination of the cellular detail during microscopic evaluation.

Sputum Specimens

Fixative: CytoLyt -- obtained from the Laboratory.

Directions: Collect sputum directly into 30 ml CytoLyt solution obtained from the Laboratory and appropriately label the container with Patient ID and source of specimen. Deliver to Laboratory Receiving Area. Specimens should be fixed immediately to allow for the conditioning (such as the breakdown of mucus, protein and blood) of the specimen which occurs with the CytoLyt solution.

Bronchial Washings or Aspirates from Any Site

Fixative: Cytolyt – obtained from the Laboratory and/or delivered to Endoscopy.

Directions: Collect washing or aspirate in usual manner and collection container. If clinical studies such as microbiology/culture have been ordered, please invert the specimen container 4-5 times then pour **half** directly into the CytoLyt container and the other half into the pertinent clinical container. Deliver to the laboratory specimen receiving area or check for the appropriate Histology pick up time. At the time of procedure, it is essential to fix the Wash and or Aspirate specimen in the CytoLyt solution to allow for the appropriate conditioning of the specimen while in transit to the processing laboratory. This step is crucial for optimum cytologic evaluation of the specimen.

Brushings from Any Site for Cytology (Pap Stain)

Fixative: CytoLyt – obtained from the Laboratory and/or delivered to Endoscopy.

Directions: Identification is critical. Affix patient ID label with exact site of origin of specimen on the CytoLyt container. Descriptors such as RT, LT, RUL, RML, RLL, LUL, LLL, Distal, Proximal, Mid, etc. should be included in the site of origin whenever possible. All brushings collected for cytologic studies should be submitted with the brush tip clipped and placed directly into the appropriately labeled CytoLyt container. Do not allow brush tip to air dry. The clipped brush tip offers not only superior cytologic morphology (no mechanical distortion nor air-drying issues distort the cells as seen in prepared direct smears) but also allows for the preparation of a cell block in addition to the cytology preparation. This further aids the pathologist in the architectural evaluation of the cells and also gives the pathologist the option for Immunohistochemical stains for further identification of abnormal cells. Please deliver specimens to the Laboratory Receiving Area and or check for the appropriate Histology pick up time.

Special Clipped Brush Tip Instructions: If more than (1) brush is utilized to brush the same area or site, then the multiple brush tips that have been clipped can be placed in the same CytoLyt container and only (1) order will be placed for that area or site in Ulticare. If multiple areas or sites are brushed then separately labeled CytoLyt containers must be utilized with the appropriate site written on the containers Patient ID labels and the multiple corresponding orders for the different areas or sites will be placed in Ulticare.

Brushing from Any Site for Special Stains (Gastric/Esophageal for H. Pylori, GMS for Fungal Elements)

Fixative: No fixative.

Directions: Label frosted end of plain slide with patient's name. Roll brush on slide and allow to air dry. Request special stains through Ulticare. Indicate any special instructions (i.e., look for fungal elements).

Fine Needle Aspiration of Deep Lesions with **Specimen Adequacy Checks** and Performed with Radiology or Ultrasound Direction

Fixative: CytoLyt and 95% alcohol brought to the procedure by the Cytotechnologist performing the Specimen Adequacy Check.

Directions: Please call 481-7854 (17854) to schedule a specimen adequacy check with the cytology department. Advanced notice would be greatly appreciated to accommodate workflow. When the patient has been placed in the room and/or is undergoing conscious sedation, please call the aforementioned phone number. Every effort should be made to reduce lag time between the arrival of the Cytotechnologist and the actual procurement of the specimen. Preparation of the cytology slides by the Cytotechnologist can be performed from specimens taken with 18 to 25 gauge needles. The Cytotechnologist can alert the submitting physician to whether or not diagnostic cells have been obtained by way of on-site staining and microscopic evaluation. Multiple passes from different angles may be necessary to obtain diagnostic cells. The Cytotechnologist will be responsible for delivering the specimen to the Laboratory.

Fine Needle Aspiration of Deep Lesions without Specimen Adequacy Checks

Fixative: CytoLyt (containers located within the Radiology suites).

Directions: Please obtain the specimen with multiple passes. Disperse the contents of the needle/syringe directly into an appropriately labeled CytoLyt container. All labels placed on the CytoLyt container should indicate the exact source of the specimen obtained. Descriptors such as RT, LT, RUL, RML, RLL, LUL, LLL and the exact organ/site sampled should be written on the label and also placed within the order itself. Any pertinent clinical history should also be included in the orders as well as the ordering/submitting physician(s). Place the appropriate specimen container into a biohazard bag and deliver to the Laboratory Receiving Area.

REQUESTS FOR FINE NEEDLE ASPIRATIONS OF SUPERFICIAL, PALPABLE LESIONS

Fine needle aspirates of superficial, palpable lesions may be performed by pathologists at Saint Francis Hospital. Fine needle aspirates may be performed on patients during their stay or on an outpatient basis. Please call the Laboratory at 918-494-1325 for scheduling.

REQUESTS FOR AUTOPSY

Autopsies are performed on patients of Saint Francis Hospital at the request of the attending physician. Criteria for autopsies are established and approved by the medical staff of the hospital, and are coordinated with the medical examiner's office.

An autopsy will not be performed unless an Authorization for Autopsy form has been completed by the person responsible for funeral arrangements and sent to the Pathology office (ext 11420) with the patient's chart.

Nursing personnel transport the body to the morgue on B level. The body must be properly identified with a patient identification band. The autopsy is usually performed within 24 hours unless the death occurs on a weekend or holiday. The body is released to the mortuary by hospital security personnel following completion of the autopsy. The Death Report is completed by nursing personnel.

The provisional diagnosis is available to the requesting physician within two working days of the autopsy with a final report in 60 days, depending on the complexity of the case.

Newborns/Stillbirths/Products of Conception

Requests for autopsies on newborns (live births) over 20 weeks of gestation follow the above procedure. A Death Report is completed by nursing personnel and the body is released to the mortuary.

By definition, a stillbirth is a fetus delivered after 20 weeks of gestation without any evidence of life. A Report of Stillbirth is completed by nursing personnel. If an autopsy is requested, routine autopsy procedure is followed and the body is released to the mortuary.

A fetus or products of conception less than 20 weeks of gestation are treated as a surgical specimen and disposed of according to state law. A Consent for Disposal must be completed by the mother. The fetus may be released to next-of-kin by contacting the Pathology office (ext. 11420) (refer to Surgical Specimen Release).