

LABORATORY SERVICES DIRECTORY

UVMHN Porter Medical Center Laboratory
115 Porter Drive
Middlebury, VT 05753

SECTION 1 GENERAL INFORMATION

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LABORATORY SERVICES DIRECTORY

TELEPHONE EXTENSION LISTINGS

UVMHN Porter Laboratory	388-4747 or Ext. 4747	
Medical Director:	Jason Brazelton, MD	[OFFICE] (802) 371-4142 [BEEPER] (802) 847-1000 #5262 [C] (802) 249-5574
Administrative Director:	Lia McFarline	388-4717 or Ext. 4717
Operations Supervisor:		388-4716 or Ext. 4716
Support Services Supervisor:	Liza Pellerin	388-3417 or Ext. 3417
Physician Office Coordinator:	Christine Peters	388-8869 or Ext. 8869
QA/QI Coordinator:	Deb Mack, MT (ASCP)	388-4761 or Ext. 4761

LABORATORY SECTIONS

Blood Bank	388-4361 or Ext. 4361
Chemistry	388-4249 or Ext. 4249
Hematology	388-4363 or Ext. 4363
Urinalysis	388-4361 or Ext. 4361
Cytology	802-847-5136 (UVM)
Microbiology	388-4365 or Ext. 4365
Pathology Hot Seat	802-847-3795 (UVM)
Specimen Receiving	Ext. 4248
Phlebotomy	Ext. 4385

LICENSURE/ACCREDITATION

US Department of Health & Human Services (HHS) CLIA #47D0091900 College of American Pathologists (CAP), Lab Number: 11835-01

INTRODUCTION

This guide describes the policies and procedures observed during the normal operation of the clinical laboratory. It provides information regarding the submission of test requests, laboratory capabilities and laboratory reports. Although we have attempted to make the guide as comprehensive as possible and practical, it is virtually impossible to cover all situations. We encourage you to contact the laboratory staff for answers to any questions not found in this guide. We also welcome all comments and suggestions that you might have regarding the operation of the laboratory.

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LABORATORY HOURS

Collection and Performance of Routine Tests

Performance of Routine Tests:

7:00 a.m. to 9:00 p.m., Weekdays

7:00 a.m. to 3:00 p.m., Weekends and Holidays

Outpatient collection:

7:00 a.m. to 7:00 p.m., Weekdays

8:00 a.m. to 2:00 p.m., Saturdays

Inpatient Collection:

As needed but routine collections are 6:30 a.m., 10:00 a.m., 2:00 p.m., 4:00 p.m., and 6:00 p.m. Daily

CONSULTATION

Pathology services are contracted through UVMHN, Department of Pathology. A pathologist is always available for consultations. A pathologist is on site at UVMHN Porter Medical Center Laboratory on Thursday and is available via phone or beeper at other times. Call the UVMHN Porter Laboratory to obtain a pathology consult.

REQUESTS FOR TESTING

A physician as defined in Medical Staff By-laws must authorize requests for laboratory testing. Limited health practitioners may utilize the laboratory under the supervision of a physician.

- Tests may be added within 5 days of sample collection by phoning the laboratory. **The sample will be checked for sufficient quantity, stability of test(s) requested, and required storage before the test will be added.** You will need to fax an order with diagnosis code for the added test(s).

REPEAT TESTING

Specimens are generally held 5 days after test completion. If laboratory results do not match the clinical condition, please call laboratory supervisor at 388-4717 to arrange repeat testing at no charge.

STANDING ORDERS

For a Standing Order to be considered valid by UVMHN Porter Medical Center Laboratory, a written order must be on file with the ordering physician or their designee's signature.

When initiating a standing order, please fill out a UVMHN Porter Laboratory Standing Order Request. If a standing order is phoned in to the lab or received via prescription pad, etc., a UVMHN Porter Laboratory Fax/Verbal Requisition will be completed with the information. The form will then be faxed back to the ordering physician to complete any missing information and for physician's (or designee's) signature. Once UVMHN Porter Laboratory receives this completed form, the order will be entered into the Standing Order system.

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It is UVMHN Porter Medical Center Laboratory's policy that standing orders be reviewed on at least an annual basis. Standing orders expire at the end of duration stated on original request and/or automatically expire one year from date of original request. As standing orders near their expiration date, the lab will send the ordering physician a reminder request asking for renewal, revision or cancellation of the current standing order. No renewal will be sent if patient has not had standing order testing collected by lab in the last 3 months prior to expiration of order.

QUALITY ASSURANCE

We believe that the first assurance of quality is a qualified staff. The laboratory is fully staffed with board certified medical technologists and medical laboratory technicians, along with a highly skilled support staff of lab assistants. The laboratory is directed by a board certified pathologist and supervised by a team of experienced technologists.

Our extensive quality control program includes proficiency testing of samples from the College of American Pathologists. College of American Pathologists (CAP) is the accrediting agency for the laboratory.

REFERENCE LABORATORIES

The UVMHN Porter Medical Center Laboratory is equipped and staffed to provide on-site performance of many procedures. Requests for tests not performed at UVMHN Porter Medical Center Laboratory are transferred via private courier to reference laboratories recommended by the pathologist and approved by the medical staff and administration. Reference laboratories presently used are

- ⌘ UVM, Burlington, VT
- ⌘ Vermont State Laboratory, Burlington, VT
- ⌘ Vermont-New Hampshire Regional Blood Services Center, American Red Cross, Burlington, VT
- ⌘ Laboratories in the Northeast Community Laboratory Alliance (NECLA) including ○ UVM of Vermont in Burlington, Vermont ○ Mayo Medical Laboratories in Rochester, Minnesota and Mayo New England in Andover, MA.

SUPPLIES

UVMHN Porter Medical Center provides specimen preservatives, transport media, blood collecting tubes, needles (butterflies not provided), and related supplies at no charge to physicians' offices using our services. Please contact the UVMHN Porter laboratory at 388-4747 for supplies or complete a UVMHN Porter Supply Order Form.

COURIER

UVMHN Porter Medical Center operates a courier route south to Brandon and north to Vergennes and Bristol. Please contact UVMHN Porter laboratory at 388-4747 for more information.

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ORDERING PRIORITIES

When ordering laboratory work, it is essential to indicate the urgency. A test may be requested either **STAT or ROUTINE**. When a test is requested **STAT**, the laboratory must be notified by telephone (Ext. 4747). Notification will assure that the test request will be given priority immediately upon arrival. Clearly mark on requisition the testing needed **STAT**.

STAT TESTS

A STAT laboratory test is one that is necessary to select treatment in an acutely ill patient. Please remember that a STAT request is a medical emergency and the laboratory will interrupt whatever it is doing to expedite completion. The following list includes all tests performed on an emergency (STAT) basis. In certain special cases other tests may be emergencies; the test may be obtained by special arrangement with a pathologist. A pathologist is on call 24 hours a day and may be reached by calling the laboratory.

Blood Bank

ABO and Rh type

Cord blood evaluation

Type and screen with or without compatibility testing

Compatibility test

Transfusion reaction workup

Coagulation Studies

Fibrinogen

Prothrombin time (PT)

D-Dimer, Sensitive

Partial thromboplastin time (PTT)

Hematology

CSF, cell count and differential

Auto differential or Manual Differential

CBC & any component within a CBC

Sedimentation rate

Chemistry

Acetaminophen

Amylase, serum

Bilirubin, total

Calcium

Chloride

Digoxin

Electrolytes

Glucose (blood or CSF)

Lithium

Protein, total on CSF

Sodium

Troponin

Alcohol (Ethanol)

BHB-Beta-hydroxybutyrate

BNP

Creatinine, serum or urine

HCG, Beta [Quantitative]

Magnesium

Potassium

Salicylate

Urea Nitrogen

Microbiology/Serology

Culture processing (Sent to UVM)

Strep A PCR

Parasite Exam on Blood (Sent to Reference Lab)

C. Difficile Toxin PCR

Influenza & RSV PCR

Mono test for infectious mononucleosis

Preparation of Gram stained smears

Spinal fluid Gram stain

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PREPARING REQUISITIONS

General Instructions

Laboratory examinations of any type will be done only upon receipt of a properly completed, legible laboratory request form and a labeled specimen container when applicable. Requesters are responsible for the proper submission of request forms and specimens.

Completion of Requisition

A completed requisition that has been printed, typed or imprinted in a clear and legible manner with the following information, must accompany all test requests: Patient's full name (last name written first)

- ⌘ Patient's birth date
- ⌘ Patient's gender
- ⌘ Name of requesting physician/medical practitioner
- ⌘ Signature of requesting physician/medical practitioner
- ⌘ Specimen source
- ⌘ Time and date of collection
- ⌘ Clinical Diagnosis, narrative or ICD10 code
- ⌘ Specific test(s) requested. Only standard names, and in rare instances, the most common standard abbreviations are acceptable.

CALL RESULTS

The following results are called:

Critical Values

Critical values will be called to the ordering physician as soon as the results are available. (See the Critical Values list Appendix A.)

Call or Fax Results Requests

If results need to be called or faxed to the provider, please check the appropriate box on the requisition and supply the phone number. These results will be called or faxed to the office as soon as possible after the completion of the testing.

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REFLEX TESTING

Reflex testing is testing performed as a result of initial test results, which are used to further identify significant diagnostic information required for appropriate patient care.

The Office of Inspector General has issued guidelines regarding reflex testing for laboratories. These guidelines state that the laboratory must disclose to physicians which tests are subject to reflex and allow the physician to decline reflex testing if it is not medically necessary. It is the laboratory policy to list tests subject to reflex on the requisitions and to allow physicians the opportunity to decline the reflex if they believe it is not medically necessary. All reflex testing is reviewed and approved by our laboratory pathologist on an annual basis. All of our clients will be notified of changes in our reflex policy. The current list of tests performed at UVMHN Porter Laboratory and subject to reflex are listed below.

It is the policy of UVMHN Porter Medical Center Laboratory to perform reflex tests automatically when the following conditions are met:

1. Test(s) listed in the following chart and
2. The initial test result meets the criteria listed in the chart for prompting a reflex test.

UVMHN PORTER MEDICAL CENTER LABORATORY TESTS SUBJECT TO REFLEX

Some tests are referred to reference laboratories

- For reflex testing information for test performed at UVM check their website at: www.uvm.org
- For reflex testing information for test performed at MAYO check their website at: www.mayomedicallaboratories.com

UVMHN Porter Medical Center Laboratory bills for the reflex tests it performs using the CPT code listed in the following chart. The option of declining reflex testing is done by writing in the name of the test in the box on the front (bottom, right) of the laboratory requisition. The tests subject to reflex testing are also listed on the back of the UVMHN Porter Laboratory Requisition.

Initial Test	Reflex Criteria	Reflex Test(s)	Additional CPT Billed
Fluid Cell Count	> 5 WBC's present	Differential	89051
HIV Antibody	Positive by EIA	HIV by Western blot	86689
Thyroid Cascade	TSH is done first. If outside normal range, a free T4 is ordered. If free T4 is not elevated and the TSH is <0.10 µ/ml a Total T3 is performed.	Free T4 Total T3	84436 84480
Urinalysis ordered as Routine UA	Positive protein, blood, nitrite or leukocyte esterase	Urine microscopic	81003 changed to 81001
Urinalysis order as If UA Positive, do Culture (UAPOS)	Positive Leukocyte Esterase <u>or</u> Nitrate <u>or</u> positive protein <u>or</u> blood on dipstick and 4 or more WBC/HPF	Urine Culture	81003 changed to 81001 & 87088

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RESULTS REPORTING

Individual patient reports are printed at least once daily (more frequently to certain accounts) and distributed by courier, fax, or mail. Each patient report includes patient's name, date of birth, sex, UVMHN Porter medical record number, location code, clinician and the date the report was printed. With each test, the date/time collected will print along with the normal ranges for the tests requested. A result that is outside the normal range may be flagged with an "H" or "L". Copies to other physicians or clinics will be done if fax number or complete address of physician/clinic is specified on requisition.

Any report containing results indicating the presence of a serious infectious disease (for example, HIV, tuberculosis, HCV) will be communicated to the ordering physician within a day of receipt via fax or printer.

CUMULATIVE REPORTS

Cumulative reports are printed and delivered via courier or mailbox for all patients discharged from the Medical Center as determined by the Medical Center information system (HIS). A cumulative report covers the testing collected during the admitted stay at UVMHN Porter and is printed when all testing is completed. A report is sent to the Admitting, Attending, and Primary Care providers as documented on the Discharge report issued by the HIS. Primary Care providers not on staff will not receive reports.

BILLING

UVMHN Porter Medical Center can bill Provider Office; Medicare; Medicaid; Patient; or Patient's Insurance. Current legislation requires laboratories to bill Medicare and Medicaid DIRECTLY for clinical laboratory tests performed for physician offices, clinics, and skilled nursing facilities. If you have questions about bills, please call: Patient Billing: PMC Business Office (802) 388-4729 and Pathology "Part B" Component (802) 847-8000

- To bill **Medicare/Medicaid** you MUST provide the following information:

Patient Name and Sex	Patient Date of Birth (DOB)
Insured Name	Medicare or Medicaid Number
Diagnosis (ICD9)	Medicaid State and Effective Dates
- To bill **Insurance/Patient Billing** you MUST provide the following information by fully completing the highlighted areas of the laboratory requisition, and **have the patient sign where indicated on the requisition.**

Patient Name	Patient Sex
Patient Date of Birth (DOB)	Patient Address
Patient Phone Number	Insurance Company Name
Diagnosis (ICD10)	Insurance Group and Policy Numbers
- Federal regulations also REQUIRE that pathologists submit separate bills for their interpretation of certain tests (Cytology, Cytogenetics, and Surgical Pathology). These tests require all the information listed above under patient billing.

BILLING FOR MICROBIOLOGY

The price of a microbiology test includes processing of the sample, inoculation of the sample to media, incubation of the media and visual observation during the incubation period. Additional billing may be incurred for identification of pathogens. There is an additional charge for susceptibility testing, if that is indicated. The identification and susceptibility tests are associated with specific CPT billing codes and are not included as part of the price listed in the fee schedule.

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APPENDIX A: CRITICAL VALUES CHART

Testing Area	Alerting Category	Test	Red Category: Complete Alert within 1 Hour	Orange Category: Complete Alert within 8 hrs. May be acceptable to defer between 9pm & 8am.
Blood Bank	Always Red	Compatibility	Any compatibility problems.	
		Transfusion Reactions	Any transfusion reactions indicating incompatibility.	
Chemistry	Always Red Always potentially life-threatening, even if patient is actively being treated	Alcohol	Above: 200 mg/dl	
		Bilirubin on Infant 0-30 days	Above: 15 mg/dl	
		Carbon Dioxide	Below: 10 mEq/L	
		Creatinine	>4.0 mg/dl with no previous critical or >4.0 mg/dl and >2.5 mg/dl higher than previous critical value	
		Digoxin	Above: 2.0 ng/ml	
		Glucose, CSF	Below: 30 mg/dl	
		Glucose	Below: 50 mg/dl Above: 500 mg/dl	
		Lithium	Above: 1.5 mEq/L	
		Ph (arterial) Blood Gases	Below 7.0 Above: 7.6	
		Potassium	Below: 2.8 mEq/L Above: 6.0 mEq/L	
		Sodium	Below: 120 mEq/L Above: 160.0 mEq/L	"Orange" if repeated within 24 hrs. and improving
		1 st Time in a Cardiac Series	Troponin	Above: 0.1 ng/mL
	Red on First Instance, ¹ Orange Thereafter. Most dangerous when first detected, but providers should have these results as condition is being treated.	Acetaminophen	Above: 100 µg/ml	
		Calcium	Below: 7.0 mg/dl	
			Above: 13.0 mg/dl	
Magnesium		Below: 0.8 mg/dl Above: 5.0 mg/dl		
Salicylate		Above: 30 mg/ml		
Valproic		Above: 150 µg/ml		
Vancomycin	PEAK: > 50 µg/ml			
	TROUGH: > 25 µg/ml			
Coagulation	Always Red	INR	Above: 4.0	
		PTT	Above: 90 sec.	
		Fibrinogen	Below 90 mg/dL Above 450 mg/dL	

¹ First instance = No critical value in the same result range (high versus low) in the past 5 days

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Testing Area	Alerting Category	Test	Red Category: Complete Alert within 1 Hour	Orange Category: Complete Alert within 8 hrs. May be acceptable to defer between 9pm & 8am.
Hematology	Always Red	Hemoglobin	Below: 8 mg/dl	Above: 18 g/dl
		Hematocrit	Below: 24 %	Above: 60 %
		Leukocytes	Below: 1,000 / μ L	
		Abs. Neutrophil	Below: <500 / μ l	
	Red on first instance,* orange thereafter.	Leukocytes	Above: 50,000 / μ L	
		Platelets	Below: 20,000 / μ L or 50% decrease in count <50,000 / μ L Above: 1,000,000 / μ L	
		Blast cells	1st time or >20%	
Microbiology	Always Red	Blood cultures	Growth of any organism(s)	
		Gram stain	Positive gram stains from: CSF & Joint Fluid	
		CSF Cultures	Growth of any organism(s)	
	Culture	Growth of Group A streptococcus (from other than throat)	Growth of Enteric Pathogen	
		Growth of Group B streptococcus from newborns	Positive culture for N. gonorrhea	
		Positive Rapid Testing	RSV Influenza A or B C. diff on IP and ED MRSA Legionella S. Pneumonia	Growth of VRE or MRSA
Reference Laboratory Reporting	Always Red	Any Test Deemed Critical by Reference Lab	Any Critical Value called from a Reference Lab	
	Orange 1st Time* so providers can initiate treatment within the next few hours. Routine Thereafter.			Positive HIV WB (new diagnosis) Positive B. pertussis by PCR Positive Acid Fast Stain/ Isolate Positive Parasites in Blood or Feces Positive Chlamydia or GC DNA Probes Any Significant Findings ² called from a Reference Lab.

*First instance = No critical value in the same result range (high versus low) in the past 5 days

²Significant microbiology findings are defined as “infectious disease related results that are needed promptly to avoid potentially serious health consequences for the patient” or, in the case of contagious diseases, “potentially serious health consequences to others exposed to the patient if not acknowledged and/or treated by the physician.”