



LAB GRAM

June 2010

Laboratory Hours

Monday – Friday	8 AM to 7 PM
Saturday	10 AM to 2 PM
Sunday	STAT Testing Only

FASTING

There are many tests in the laboratory that require the patient to be fasting. The definition of fasting for laboratory testing means nothing to eat and nothing to drink BUT water for a specified amount of time before the blood sample is collected. The length of time for the fast varies by test. For glucose and panels containing glucose the time is 8 hours or more. For Triglycerides and many other Lipid tests, the recommended fast is 12-14 hours and no consumption of alcoholic beverages for 24 hours prior to testing.

To view patient prep requirements for specific tests, visit our website at www.porterhospitallab.org

BNP Processing Change

Due to a recent technical bulletin we received from the reagent manufacturer for B-Type Natriuretic Peptide Immunoassay, we have updated the specimen requirements. If the sample can't be delivered to Porter Hospital Laboratory within seven hours of collection, please spin the sample and freeze the plasma at -20° C.

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PORTER LAB ANNOUNCEMENT

The Porter Hospital Laboratory website has been online now since February 2010 and completely replaces any Porter Laboratory Services Directory/Manual (white binder) you may have in your office. Please do not use the old manual as it is outdated. Below is a repeat of the website announcement sent out in February for those of you who might not have received it at that time.

Laboratory Website

Porter Hospital Laboratory is pleased to announce our own website full of updated information on lab testing. The information formerly published in the Porter Laboratory Service Manual is now on the website in an easy to use format that can be updated with test requirements as soon as the requirements change.

In the 'Search Lab Tests' window, you will be able to search for Specimen Requirements for Porter and FAHC performed tests. For testing referred to Mayo Medical Laboratory, the search of a test name provides you with a link that takes you to the test on the Mayo Medical Laboratory site. This site has extensive information about the test including specimen requirements. Once you are on the Mayo site, you can research other tests by name or search by disease to find the test information you may need.

Under the Forms for Lab Services you will also find various lab forms that may need to be submitted with certain tests ordered by your office. The current list is:

- Informed Consent to DNA Testing (Send to lab. Required to perform testing.)
- Molecular Genetics - Congenital Inherited Diseases Patient Information Sheet (Send to lab. Required to perform testing.)
- Mayo Connect Additional Test Information (Send to lab. Required to perform testing.)
- PMC101- Porter Laboratory Fax/Verbal Requisition
- PMC102 - Porter Laboratory Problem (Accountability Form)
- PMC104 - HIV Consent Form (For your records. Do not send to lab)
- Blood Transfusion Order Form

Several useful links have also been provided under Resource Links. They currently are:

- Fletcher Allen Pathology & Laboratory Medicine
- Mayo Medical Laboratories
- Porter Medical Center
- American Red Cross
- Lab Test Online

The website is: **<http://www.porterhospitallab.org/>**. We hope you add it to your favorites and refer to it for updated testing requirements and information.

If you could return your Porter Laboratory Services Manual to the laboratory, it will be recycled & reused. Updates will no longer be provided in paper format.

LABORATORY OPERATIONS

Medical Waste

Please remind your patients that Porter Hospital Laboratory cannot accept sharps containers for disposal. Patients should contact their local Solid Waste District for their policy on proper disposal of sharps.

For patients living in the towns that belong to

- Addison County Solid Waste Management District
 - Website is: <http://www.addisoncountyclecyles.org>
 - Telephone: 388-2333
- Chittenden Solid Waste District
 - Website is: <http://www.cswd.net/whattodo/#medical>
 - Telephone: 872-8111

Special Collection: Kits

There are instances where a specimen needs to be collected and shipped to a specific laboratory for insurance, specialty testing, organ donation, etc. It is the policy of Porter Hospital to collect and process these samples on Monday through Thursday ONLY.

The patient is expected to pay Porter for the collection, processing, and shipping charges themselves unless a letter accompanies the kit stating who to bill for those services. Medicare, Medicaid, and many insurance companies will not pay these fees. The cost of testing at the outside laboratory is also the responsibility of the patient.

Please inform your patient about our collection hours and their payment responsibilities if sending a patient to Porter Laboratory for collection of specimens to be shipped to another testing site.

COMPLIANCE UPDATE

Alert: CBC and CBC with Differential

As a way of determining if payments made by Medicare were adjudicated correctly, the Comprehensive Error Rate Testing Program (CERT) was developed. CMS randomly selects a sample of Medicare patient claims and reviews the patients' medical records for appropriate documentation for testing and/or procedures performed. It was as a result of this program that Porter Hospital was notified of a national issue involving medical records/ordering documentation discrepancies for **CBC** and **CBC with differential** test orders.

Although a **CBC** (Heme Screen) stands for **Complete Blood Count**, it **does not** include a differential. If the provider's orders or progress notes state CBC but the requisition is clearly marked CBC with Diff, Medicare will request repayment from the laboratory based on the supporting documentation. Our laboratory will perform **only** what is requested on the requisition. When ordering a **CBC** or **CBC with differential**, please make sure the documentation in the patient's medical record matches what is requested on the lab requisition.

Signature Required on All Laboratory Orders

To avoid unnecessary denials or multiple requests, it is recommended that physicians/practitioners provide a **hand written signature** on all clinical diagnostic test requisitions. Porter Laboratory has modified its current requisition to provide a signature line and further revisions are underway to make signing requisitions more convenient. If you do not have a 'modified' requisition, please provide your signature near your pre-printed name at top of form. Please note that Medicare does not accept rubber stamp signatures.

Please also note that there is a signature line on the FAHC Laboratory/Pap Smear and Pathology/Cytology Requisitions. Please remember to sign these forms as well.

COMPLIANCE UPDATE

MEDICARE QUICK REFERENCE: Laboratory Preventative Screening

SERVICE	HCPCS/CPT CODES	ICD-9-CM CODES	FREQUENCY
Cardiovascular Disease Screenings	<ul style="list-style-type: none"> • 80061-Lipid Panel • 82465-Cholesterol • 83718-Lipoprotein • 84478-Triglycerides 	Report one or more of the following: V81.0, V81.1, V81.2	<ul style="list-style-type: none"> • Eligibility: All asymptomatic Medicare beneficiaries • Every 5 years
Diabetes Screening	<ul style="list-style-type: none"> • 82947-Glucose, quantitative, blood (except reagent strip) • 82950-Glucose, post- glucose dose (includes glucose) • 82951-Glucose Tolerance (GTT), three specimens (includes glucose) 	V77.1 <i>Report modifier "TS" (follow-up service) for diabetes screening where the beneficiary meets the definition of pre-diabetes</i>	<ul style="list-style-type: none"> • 2 screening tests per year for Medicare beneficiaries diagnosed with pre-diabetes • 1 screening per year if previously tested, but not diagnosed with pre-diabetes or if never tested
Screening for Pap Tests	<ul style="list-style-type: none"> • G0123 • G0145 • P3000 	<u>Low Risk</u> <i>Report one of the following:</i> V76.2, V76.47, V76.49, V72.31 <u>High Risk</u> V15.89	<ul style="list-style-type: none"> • <u>Low Risk</u>- Every 24 months • <u>High-Risk</u>- Annually
Colorectal Cancer Screening	<ul style="list-style-type: none"> • G0328 or 82270-Fecal Occult Blood 	Use appropriate code <i>Contact local Medicare Contractor for guidance</i> Ex.V76.41, V76.51	<ul style="list-style-type: none"> • Eligibility: Beneficiaries age 50 and older • Fecal Occult Blood: annually
Human Immunodeficiency Virus (HIV) Screening	<ul style="list-style-type: none"> • G0432 • G0433 • G0435 	<u>No Increased Risk Factors</u> V73.89 <u>Increased Risk</u> V73.89 + V69.8 <u>Pregnant Women</u> V73.89 + one of the following: V22.0, V22.1, V23.9	<ul style="list-style-type: none"> • 1 Voluntary screening per year • 3 Voluntary screenings of pregnant Medicare beneficiaries: <ol style="list-style-type: none"> 1. When diagnosis of pregnancy is known. 2. During 3rd trimester. 3. At labor, if ordered by the woman's clinician.
Prostate Cancer Screening	<ul style="list-style-type: none"> • G0103 – Prostate Specific Antigen Test (PSA) 	V76.44	<ul style="list-style-type: none"> • Eligibility All male Medicare beneficiaries 50 or older (coverage begins the day after 50th birthday) • Annually

TEST NEWS

Chlamydia/GC Molecular Detection in Urine- Referred to FAHC

Urine collection for gonococcus (GC) and Chlamydia amplified probe testing must be a *beginning* stream sample (not a midstream or clean catch), as the goal is to “wash” out organisms from the urethra. The highest number of organisms will be in the first few milliliters of urine. Additionally, the patient should not have urinated for at least 1 hour prior to specimen collection. Do not have female patients cleanse the labia prior to collection. Submit a minimum of 1.5 mL of urine in a sterile container. Instruct the patient not to urinate more than 20 mL of urine into the collection vial, as collection volumes higher than 30 mL may dilute the sample and could cause false negatives.

Refrigeration is optimal for urine samples. If the sample will not arrive at Porter Hospital Laboratory within 24 hours of collection, the urine must be placed in an Aptima Combo 2 Vial (yellow label). The urine volume must fall between the black lines of the window on the tube; if the tube is overfilled or underfilled, we cannot run the test. Specimens sent in Aptima transport tubes can be submitted at room temperature (instructions for Aptima transport tubes are listed on the package).

Please do not order a urine culture and a Chlamydia /GC probe on the same urine collection as their specimen requirements are not the same.

- A chemiluminescent-labeled DNA probe is used to detect amplified RNA of Chlamydia trachomatis and/or *Neisseria gonorrhoeae*.
- Samples are tested and reported Monday through Friday.
- If either pathogen is detected, the result is called to the clinician.
- If results fall in the indeterminate range, it is suggested to the clinician that a culture be submitted at no additional charge.

Syphilis Testing Updates from Fletcher Allen Health Care

Follow-up for Treponemal (Syphilis) Serology Testing Change

In order to expedite follow-up testing and to provide more diagnostic information, on February 15, 2010, the Fletcher Allen Laboratory changed its process for treponemal testing. Previously, initial testing was performed using the DiaSorin Liaison Treponema chemiluminescence immunoassay. Negative results were reported directly, while all positive samples had an RPR performed. Samples which were positive for both assays (chemiluminescence and RPR) were regarded as coming from patients who had untreated syphilis unless this possibility was ruled out by treatment history. When results were reactive by the chemiluminescence assay but nonreactive by RPR, samples were sent to the Vermont State Laboratory for a fluorescent treponemal antibody assay. Although effective, this testing scheme did not provide information concerning the immunoglobulin type of the antibody detected, and there were delays in performing the additional testing.

Under the new follow-up system, initial testing is still performed using the chemiluminescence immunoassay performed at Fletcher Allen. However, the follow-up for all positives is now performed by Mayo Medical Laboratories, with identification of the immunoglobulin class (IgG and/or IgM) followed by RPR testing at Mayo. The additional information regarding immunoglobulin class may assist in the diagnosis of active treponemal infection.

If you have any questions concerning this change, please contact Dr. Greg Sharp (Gregory.Sharp@vtmednet.org) in the Fletcher Allen Chemistry Laboratory.

Viral Detection: Parainfluenza Virus Test Update – Referred to FAHC

PCR is now used for detecting Parainfluenza Virus. PCR is more sensitive than culture and hemadsorption, while providing more timely results. Testing for Parainfluenza virus is performed once daily at Fletcher Allen Health Care, Monday through Friday, results by late afternoon.

TEST NEWS

HPV Testing Schedule – Referred to FAHC

Effective February 15, 2010, FAHC increased their HPV testing to testing four days per week: Monday through Thursday. The addition of testing on Mondays will improve turnaround time and enable us to better serve our patients and clients.

Lead Level: Change in Critical Value – Referred to FAHC

In order to align our critical values with those used at other institutions such as Mayo Medical Laboratories, and to be consistent with the definition of critical value as one that is immediately life threatening and should require immediate increased monitoring or therapy, the critical value for blood lead levels in adults (patients greater than or equal to 18 years of age) will change from the current level of 45 µg/dL to 70 µg/dL. The level for children will remain the same: 20 µg/dL.

Plasma Free Hemoglobin Testing Change

As of April 1, 2010, plasma free hemoglobin testing will be performed by Mayo Medical Laboratories instead of at the FAHC Chemistry Laboratory. Mayo Test Number is 9096. The specimen requirements are available at <http://www.mayomedicallaboratories.com/test-catalog/Overview/9096>

Hemoglobin A1C: Change in Reference Range¹

A recent publication by the American Diabetes Association has changed the recommended standard for the diagnosis of diabetes to include the Hemoglobin A1c value with a threshold of greater than or equal to 6.5%. In order to reflect this and other information in the standard, the reference range for Hemoglobin A1c was changed on June 8, 2010 to the following:

- less than 5.0% Normal
- 5.7 - 6.4% Increased risk for diabetes
- Greater than or equal to 6.5% Diagnostic for diabetes (if confirmed)
- The Hemoglobin A1c goal for non-pregnant adults with diabetes in general is less than 7%.
- The Hemoglobin A1c goal for selected patients with diabetes may be significantly lower than 7%, if this can be achieved without significant hypoglycemia or other adverse effects of treatment.

¹Reference: Standards of Medical Care in Diabetes - Diabetes Care, Volume 33, Supplement 1, January 2010

Vitamin D: Fountain of Youth, or Panacea?

Reprinted from FAHC Pathology & Laboratory Medicine

Few therapies recently have been received with the enthusiasm of Vitamin D. As recently as February 1, an article in the New York Times touted the possibility that Vitamin D could “build bones, strengthen the immune system and lower the risks of illnesses like heart and kidney disease, high blood pressure and cancer.” Who wouldn’t be interested?

Combined with the fact that a 2008 report in the American Journal of Clinical Nutrition, along with other studies, indicated that as many as half of all adults and children have less than optimal levels, and as many as 10% of all children are highly deficient, there is growing interest in measuring levels of Vitamin D.

Humans can get Vitamin D from exposure to sunlight, diet and dietary supplements. The D in Vitamin D can represent two forms, D2 or D3, but for practical purposes these can be considered together. Vitamin D from the sources above is metabolized in the liver to 25-hydroxyvitamin D. It is this form (as the sum of the D2 and D3 components) that is the major circulating form of Vitamin D and is used to assess a patient’s Vitamin D status. Subsequently, 25-hydroxyvitamin D is metabolized in the kidney and other tissues to its active form: 1,25-dihydroxyvitamin D. Although this is the active form of the vitamin, there is little clinical utility to the measurement of 1,25-dihydroxyvitamin D.

There is little consensus over the optimal level of 25-hydroxyvitamin D. Generally, however, a serum level of less than 20 ng/mL is regarded as indicating Vitamin D deficiency, while a level of 21 to 29 ng/mL suggests vitamin D insufficiency and a level greater than 30 ng/mL suggests sufficiency. A number of experts suggest, however, that 30 ng/mL should only be considered to be at the lower end of the “normal” range. Using these levels, it has been estimated that 1 billion people worldwide have either Vitamin D deficiency or insufficiency. Certain populations are at higher risk for Vitamin D deficiency, including Hispanics, blacks and those with higher body mass index. The elderly, housebound persons and nursing home residents are particularly vulnerable to deficiency. Since maternal Vitamin D status chiefly determines the Vitamin D status of the fetus and the vitamin is so important for formation of tooth enamel, fetal skeletal development and possibly other systems, it has been suggested that pregnant women receive additional supplementation and that consideration be given to assessing their Vitamin D levels.

There are basically two methods for measuring 25-hydroxyvitamin D levels: immunoassays (CIA, RIA, ELISA) and chromatographic assays (HPLC and LC-MS/MS). The majority of the labs in the CAP Surveys use the DiaSorin Liaison®, a chemiluminescence immunoassay. DiaSorin also makes a radioimmunoassay that was used for many of the early epidemiologic studies. These systems report a total value that combines 25-hydroxyvitamin D2 and D3. At Fletcher Allen we utilize the DiaSorin Liaison® 25-OH Vitamin D chemiluminescence immunoassay and report a total value (combined D2 and D3).

Although Vitamin D is the “sunshine vitamin”, exposure of the skin to sunlight may not be the optimal method to curtail Vitamin D deficiency. Fifty one percent of adults in Hawaii receiving at least 3 hours of sun daily for a minimum of 5 days per week had serum 25-hydroxyvitamin D levels less than 30 ng/mL. Similar results have been found in ambulatory adults in south Florida.

Oral supplementation has been found to effectively and reliably increase Vitamin D levels to recommended levels (except in the setting of gastric malabsorption), which may obviate the necessity for the increased risk of skin aging and cancer from sun exposure. The level of supplementation is the subject of great debate: national recommendations are expected this year. At present, however, an intake of 800-1000 IU of Vitamin D3 per day would probably guarantee vitamin D sufficiency for most adults.

In summary, Vitamin D insufficiency is not uncommon, and there is epidemiologic and other evidence to suggest that Vitamin D is important for bones, to prevent falls, pain, autoimmune and infectious diseases, and heart disease, and to preserve cognitive function. Total 25-hydroxyvitamin D is an indicator of Vitamin D status. As long as the total is 30 ng/mL or more, the patient likely has sufficient Vitamin D levels.

HIGHLIGHT NEW MAYO TEST

Northeast Regional Allergen Profile Mayo #31767

Profile Includes:

Unit Code	Reporting Name	Available Separately	Always Performed
82673	Oak, IgE	Yes	Yes
82891	Timothy Grass, IgE	Yes	Yes
82893	June Grass, IgE	Yes	Yes
82667	Short Ragweed, IgE	Yes	Yes
82682	Lambs Quarter, IgE	Yes	Yes
82665	Cat Epithelium, IgE	Yes	Yes
60108	Dog Dander, IgE	Yes	Yes
82912	Cladosporium, IgE	Yes	Yes
82910	Alternaria Tenuis, IgE	Yes	Yes
82905	House Dust Mites/D.F., IgE	Yes	Yes

Useful For:

- Testing for IgE antibodies may be useful to establish the diagnosis of an allergic disease and to define the allergens responsible for eliciting signs and symptoms.
- Testing also may be useful to identify allergens responsible for anaphylaxis, to confirm sensitization to particular allergens prior to beginning immunotherapy, and to investigate the specificity of allergic reactions to insect venom allergens, drugs, or chemical allergens.

Methodology: Fluorescence Enzyme Immunoassay (FEIA)

Reference Values:

Class	IgE kU/L	Interpretation
0	<0.35	Negative
1	0.35-0.70	Equivocal
2	0.71-3.5	Positive
3	3.51-17.5	Positive
4	17.6-50.0	Strongly positive
5	50.1-100.0	Strongly positive
6	>100.0	Strongly positive

Specimen Requirements:

- Draw blood in a plain, red-top tube(s) or a serum gel tube(s).
- Spin down and send 1.0 mL of serum refrigerated.

Cautions:

- Testing for IgE antibodies is not useful in patients previously treated with immunotherapy to determine if residual clinical sensitivity exists, or in patients in whom the medical management does not depend upon identification of allergen specificity.
- Some individuals with clinically insignificant sensitivity to allergens may have measurable levels of IgE antibodies in serum, and results must be interpreted in the clinical context.
- False-positive results for IgE antibodies may occur in patients with markedly elevated serum IgE (>2500 kU/L) due to nonspecific binding to allergen solid phases.

Price: \$130.00 **CPT:** 86003/x10

More Information: <http://www.mayomedicallaboratories.com/test-catalog/Overview/31767>