



Saint Luke's Regional Laboratories Clinical Laboratory Letter



June 2005

Saint Luke's Regional Laboratories is a United Healthcare Provider

Recently, Quest Diagnostics and LabOne sent misleading letters to physician offices stating that they had been selected as either a national provider or a preferred provider for United Healthcare insurance products. In some instances, these letters were misinterpreted to mean that Saint Luke's Regional Laboratories could no longer perform testing for patients insured by United Healthcare.

United Healthcare does not have an exclusive laboratory contract with any one provider, nor is any laboratory considered to be a preferred provider for any of their insurance products. Saint Luke's Regional Laboratories has been and will continue to be a provider for United Healthcare products.

Chlamydia testing from ThinPrep Pap Smears—Just Say No!

Clinicians who perform Pap smears may be receiving information from commercial laboratories promoting testing for *Chlamydia trachomatis* and *Neisseria gonorrhoeae* (CT/NG) from the same specimen collected for ThinPrep Pap smears. Saint Luke's Regional Laboratories does not perform CT/NG testing from ThinPrep Pap specimens due to significant technical concerns.

ThinPrep cytology instruments were designed to safely and effectively handle cells, not DNA (Warde Report 2003;14:1-3). Although a separate filter is used with each specimen, the fluid in the ThinPrep vial is manipulated by air pressure. ThinPrep processing can generate DNA-packed aerosols that contaminate subsequent specimens. In contrast, molecular diagnostics laboratories are familiar with the potential for aerosol contamination and utilize specific design characteristics, laboratory practices, and quality control to minimize the possibility of erroneous results. These aerosol control features are not incorporated into the ThinPrep cytology instrument. Aerosol generation is not a trivial issue because the transfer of just one nucleic acid

molecule can produce a false-positive CT/NG result. The use of ThinPrep vials for CT/NG may also produce false-negative results due to specimen dilution. Dilution of the sample in ThinPrep vial fluid is of particular concern when screening asymptomatic women, as these patients often have lesser amounts of the infecting organism to be detected.

The Molecular Diagnostics section of Saint Luke's Regional Laboratories utilizes Roche Cobas Amplicor PCR for CT/NG testing. Performance characteristics of the Roche assay include a sensitivity of 97% and specificity of 99% from endocervical swabs. A separate specimen should be collected when CT/NG testing is required concurrently with the Pap smear.

SSRI are Associated with an Increased Risk of Bleeding

Selective serotonin reuptake inhibitors decrease the uptake of serotonin by platelets. Since platelets are unable to synthesize serotonin, these medications lower the intracellular serotonin concentration and subsequently inhibit platelet aggregation. A large case control study evaluated the risk of bleeding in a cohort of 64,647 new antidepressant users (Arch Intern Med 2004;164:2367-70). During an average follow-up interval of 229 days, 196 individuals were hospitalized with a primary diagnosis of abnormal bleeding including menorrhagia, metorrhagia, upper GI hemorrhage, cerebral hemorrhage, hematuria, hemoptysis, hemarthrosis, and post-op bleeding. SSRI with the highest affinity for the serotonin transporter (fluoxetine, sertraline, paroxetine, and clomipramine) were associated with a 2.6 fold increased risk of bleeding events compared with antidepressants with a low degree of serotonin reuptake inhibition such as trazodone, doxepin, nortriptyline, desipramine and bupropion. This study probably underestimated the actual risk of bleeding associated with SSRI because it did not include those cases where bleeding was not the primary cause for admission and it did not capture minor bleeding events that did not result in

hospitalization. The results of this study suggest that patients admitted for bleeding should be questioned about SSRI use. Platelet transfusions will probably not be effective in controlling bleeding until after these medications have been discontinued for several half-lives.

Crossreactivity of Steroids with Cortisol

With the increasing use of steroid replacement therapy for critically ill patients, an important issue is the crossreactivity of steroid medications with the cortisol assay performed in the hospital laboratories of the Saint Luke's Health System. The following table summarizes the degree of crossreactivity with cortisol. This type of study is accomplished by comparing cortisol levels in a serum that has been spiked with a particular steroid with the same sample that has not been spiked.

Steroid	% Crossreactivity
Corticosterone	2.8
Cortisone	7.4
Dexamethasone	0.2
Fludrocortisone	1.2
Hydrocortisone	0.5
Methylprednisolone	20.9
Prednisolone	27.0
Prednisone	6.6

As demonstrated in the table, treatment of patients with dexamethasone, fludrocortisone or hydrocortisone will not significantly affect cortisol measurements.

Homocysteine Stability

The specimen requirement for measurement of Homocysteine (Hcy) is one 5 mL lavender top tube of blood. Hcy levels are stable for only 2 hours on specimens kept at room temperature, but remain stable up to 8 hours on specimens kept in ice. Improper handling allows Hcy to leach out of red cells and falsely elevate plasma levels. For the most accurate results, the tube should be placed in ice.

BNP Method Change

This month, the laboratories at SLH, SLN, SLS and SLE changed their method for performing BNP from Biosite Triage to Bayer Centaur. This change was made because of the significant cost savings achieved by performing the test on an automated

immunoassay instrument that is directly interfaced to the laboratory information system. Precision has also greatly improved from 15% to 2.5%. Improved precision makes comparison of pre and post-treatment values more reliable. The reference range did not change, but physicians may notice that BNP values in the higher range run approximately 25% lower than before.

ANCA Method Change

Saint Luke's Regional Laboratories changed its method for performing enzyme immunoassays for myeloperoxidase and PR3 ANCA on June 6. The reference range for both assays changed from 0-5 to 0-20 units.

Insulin Reference Range Change

Saint Luke's Regional Laboratories reevaluated the distribution of insulin values in healthy individuals and changed the reference range from 1.4– 4.0 to 3–25 uIU/mL on May 9.

Workplace Drugs of Abuse Testing

The Drug Testing Index summarizes the results of more than 7.2 million workplace drug tests performed from January through December 2004 (www.questdiagnostics.com). The positive rate was 4.9% for the general United States' workforce and 2.3% for federally mandated, safety sensitive workers. The latter category includes pilots, bus and truck drivers and workers in nuclear power plants. The most commonly detected drug categories are summarized below.

Drug Category	% of Positives
Marijuana	54.8
Cocaine	14.7
Amphetamines	10.2
Opiates	6.2
Benzodiazepines	4.5
Propoxyphene	4.4
Barbiturates	2.5
Methadone	1.5
PCP	0.4

Amphetamines were the only drug class to increase from 2003 to 2004. These statistics included testing for all reasons including pre-employment, follow-up, for cause, post-accident, random, periodic and returned to duty.