

New chemistry/immunochemistry instrumentation



Lynn Rosvold, clinical laboratory scientist technical lead, uses the Vitros Fusion 5.1.

Fairview Health System Laboratories have selected Ortho Clinical Diagnostics, Inc., as the vendor to supply chemistry/immunochemistry

instrumentation for the acute care laboratories. The selection process used a decision matrix with identified criteria to evaluate vendors and equipment. Goals

included standardization across the system, menu consolidation and cost containment. Most sites currently use Ortho systems and report high staff satisfaction with these instruments. Sites anticipate minimal changes to patient results and references ranges.

Fairview hospital laboratories are installing the Vitros 5,1 FS and ECiq systems. The laboratories are validating methodologies and interface specifications, and will convert to the new instruments as each site completes its validation process. Fairview Clinic laboratories will upgrade current Vitros systems following conversion of hospital laboratories to the new instruments. Planners anticipate system conversion being completed by April.

Features of the Vitros systems include reduced time for calibration, quality control and maintenance. Most of the methods use dry-slide technology that eliminates both endogenous interferences and reagent preparation. These features reduce operator interventions and improve labor efficiency, thus improving turn-around time for reporting results.

Tests being evaluated on the Vitros system. These tests would be available 24 hours/day.

<u>Chemistries</u>	Troponin
Albumin	TSH
ALKP	Uric
ALT	Urine Protein
Ammonia	<u>Proteins</u>
Amylase	hsCRP
AST	CRP
BUN	Transferrin
Ca	Prealbumin
Cholesterol	Microalbumin
CK	<u>TDMs</u>
CKMB	Acetaminophen
Creatinine	Alcohol
CSF Protein	Carbamazepine
Direct HDL	Digoxin
Direct LDL	Gentamicin
Electrolytes (Na, K, Cl, CO ₂)	Lithium
Free T4	Phenobarbitol
GGT	Phenytoin
Glucose	Salicylate
HCG	Theophylline
Iron	Tobramycin
Lactate	Valproic Acid
LDH	Vancomycin
Lipase	<u>DAUs – mid</u>
Magnesium	2006
Phos	Amphetamines
PSA	Barbiturates
TBIL	Benzodiazapine
TIBC / UIBC	Cannabinoid
Total Protein	Methodone
Triglycerides	Opiates
	Cocaine
	PCP

C-Reactive Protein, Inflammatory vs. C-Reactive Protein, Cardiac Risk

Both C-Reactive Protein, Inflammatory and C-Reactive Protein, Cardiac Risk measure the same molecule in the blood.

C-Reactive Protein, Inflammatory (CRP) is used as an indicator of infectious and inflammatory disease states, including active rheumatic fever and rheumatoid arthritis. CRP is the most sensitive acute phase protein and rises within two hours of acute insult (surgery, infection, etc.). If no other inflammatory event occurs, CRP will peak at about 48 hours and

then begin to decrease.

C-Reactive Protein, Cardiac Risk often is referred to as high-sensitivity CRP (hs-CRP). This test measures the much lower amounts of CRP in the blood of normal individuals who lack overt inflammatory conditions. It is used to assess cardiac risk.

Adding measurement of hs-CRP to results from a fasting lipid panel further improves the identification of patients at higher risk for cardiovascular events. Individuals with comparable LDL- and HDL-cholesterols who have hs-CRP

in the higher part of the normal reference range (e.g., greater than 3.0 mg/L) are at higher risk for developing atherosclerotic disease events than those with hs-CRP results in the lower part of the reference range (e.g., less than 1.0 mg/L). Results greater than ~8.0 mg/L suggest infectious disease and inflammatory states, including active rheumatic fever, rheumatoid arthritis and acute bacterial infections.

John Eckfeldt, M.D., Ph.D., medical director, Acute Care Laboratories, University of Minnesota Medical Center, Fairview

Atlas at last: electronic ordering and reporting

Fairview Laboratories now offer electronic ordering and reporting of laboratory tests to non-Fairview (outreach) clients with the use of Atlas LabWorks.

Atlas LabWorks is a sophisticated physician laboratory order entry- and result-reporting solution for laboratory outreach using the Internet.

Three Fairview outreach clients served as beta sites for our initial rollout beginning Dec. 14, 2005: University of Minnesota Boynton Health Service, Children's Hospitals and Clinics of Minnesota - Minneapolis and Lakeville Integrative Medicine Clinic.



Dace Zhu, principal lab tech, Boynton Health Service Laboratory, uses Atlas software.

In the first phase, orders and patient demographics are placed directly into Atlas, and results are

retrieved from Atlas for charting. Interfaces, to be added sometime mid-2006, will allow clients to

order tests directly into their electronic health records, then electronically transmit orders to and receive results from Atlas.

Fairview Laboratories will identify other outreach customers for roll out in 2006. Fairview plans to have many of our larger existing clinic and hospital customers up on Atlas by the end of 2006. We are pleased that Atlas allows us to offer services comparable to those available from the large national reference laboratories.

Diane Petersen, CLS, sales and marketing specialist, Fairview Diagnostic Laboratories

Lab Focus Updates

All Fairview sites now provide leukoreduced blood components

As of Jan.1, Fairview Southdale Hospital transfuses only leukoreduced cellular blood components: i.e., red blood cells and platelets. The blood supplier performs pre-storage leukoreduction of most components; however, caregivers leukoreduce random platelets at transfusion, using a filter. All other Fairview hospitals use pre-storage leukoreduced cellular components.

Recent studies have shown that leukocyte-reduced blood components are associated with lower postoperative infection and mortality rates in cardiac surgery patients, as compared to transfusion of similar patients with non-leukreduced cellular blood components.

Kathrine Frey, M.D., pathologist, Fairview Southdale Hospital.

Virology Laboratory Extends Hours

The Clinical Virology Laboratory, University of Minnesota Medical Center, Fairview has extended its hours of service, effective Feb. 6. The laboratory now is open from 7 a.m. to 11 p.m. Monday through Friday, and from 7:30 a.m. to 4 p.m. Saturday and Sunday.

All stat testing for Flu and RSV rapid antigens is performed in Virology during these hours. Testing is performed on a stat basis and is no longer batched. Please direct questions or concerns to Charlotte Romain, technical supervisor, 612-273-3470, cromain1@fairview.org.

Laboratories Make Change in Urinalysis Reporting

Laboratories at Fairview Ridges Hospital and University of Minnesota Medical Center, Fairview using the new Iris urinalysis automated imaging system will begin reporting amorphous crystalline material without distinguishing between amorphous urate and amorphous phosphate crystals. Amorphous crystalline materials are virtually indistinguishable microscopically. Neutral or alkaline urine contains amorphous phosphates, while acidic urine contains amorphous urates. Amorphous phosphates also are seen more frequently with bacterial infections of the bladder or kidney.