

Lab Focus

July 2004—monthly insert to 'Scope from Fairview Clinical Laboratories

Sound bites. . . .

Order HCV Quantitative and HCV Genotype Individually

HCV Quantitative and HCV Genotype testing were set up incorrectly, so that a HCV Quantitative automatically reflexed to an HCV Genotype. That has been corrected, so physicians now need to order the HCV Quantitative and HCV Genotype separately if both are desired.

Point of Care Creatinine Testing Initiated in Radiology

The laboratory has collaborated with Radiology at Fairview Northland and Fairview Southdale Hospitals to set up point-of-care creatinine testing using the I-Stat instrument. Radiology is using creatinine as a screen for kidney function deficiencies prior to performing some radiology procedures.

HIV Rapid Antibody Test (Ora Quick): Available Systemwide

Collection information:

Collection volume: 1 mL, 0.4 mL minimum blood.

Container: purple (EDTA); alternate container: red/back or gold (gel); red (plain, no gel).

Methodology: Immunoassay.

Turnaround Time: Performed and reported 24 hours/day. Actual testing time 20 to 30 minutes.

Availability: Fairview Lakes, Fairview Northland, Fairview Red Wing, Fairview Ridges, Fairview Southdale, and Fairview-University Medical Center (University and Riverside campuses).

Fairview Ridges Hospital was inadvertently omitted in the June article as a site providing testing. Our apologies for any confusion.

2004 Transfusion Guidelines Available

The Blood Component Transfusion Guidelines, 2004 edition, is now available. If you need a copy and haven't received one, please contact your site Blood Bank. These guidelines represent the appropriate uses for blood components. Although changes from the 2002 version are minor, see highlights detailed below:

Recent estimates of transfusion-transmitted disease risk are listed below for use by the transfusing physician when obtaining informed consent (i.e., explaining risk, benefit and alternatives).

Transfusion Transmitted West Nile Virus Infections

An epidemic of WNV infection spread nationwide during summer 2002 included, for the first time, cases spread through organ transplantation, childbirth and transfusion (red cell, platelet and frozen plasma). WNV again occurred nationwide during the June through October 2003 mosquito season. To prevent transfusion-related transmission, blood donor centers implemented donor criteria to exclude those with recent WNV fever symptoms. Centers also initiated donor testing for WNV RNA in July 2003. Despite donor testing, there were six confirmed cases of transfusion-transmitted WNV in the U.S. during 2003, but no deaths.

Transfusing physicians have a responsibility to **report to the blood bank any cases of WNV infection that had its onset**

within 28 days of a transfusion with no other obvious cause for the infection. This is important so we can report to the blood supplier who will quarantine other components from the same donation and evaluate the donor for infection.

Transfusion Reactions

Automated bedside identity checks are coming. We are working on a solution for assuring bedside checking of blood and patient identity to prevent collection or transfusion of the wrong blood. A pilot will begin at Fairview-University, University campus later this year.

During 2003, there were three cases of transfusion reactions due to bacterial contamination of platelets components. **Bacterial testing of all transfused blood components started March 2004.**

Do not restart a transfusion if stopped for a reaction, except in cases of hives only. If a patient has a transfusion reaction, stop and do not restart the transfusion. Verify accurate patient identification and send component residue and patient blood sample to the blood bank for evaluation of incompatibility, hemolysis, bacterial contamination and other causes. Only in the case of treatable hives and itching, **without** any other symptoms such as dyspnea, wheezing, angioedema or hypotension, should you restart the same component without blood bank evaluation.

INFECTIOUS DISEASE – ESTIMATED RISK PER TRANSFUSED UNIT

Hepatitis C Virus	1 in 1.2 million
Hepatitis B Virus	1 in 150,000
Human T-Lymphotropic Virus.....	1 in 641,000
Human Immunodeficiency Virus.....	1 in 1.4 million
Bacteria in Platelet Concentrate.....	1 in 2172
Bacteria in Apheresis Platelets.....	1 in 3571
Bacteria in RBC	1 in 38,565
------(Strong & Katz Trends Mol Med 2002;8:355) -----	
Fatal Bacterial Sepsis, RBC.....	1 in 500,000 to 1 million
West Nile Virus	Seasonal
Other Infection	<1 in 1 million

Delayed surgery due to delays in ordering the crossmatch

Physicians continue to wait until the day of surgery to collect a sample for type, antibody detection and crossmatch. We occasionally find one or more antibodies that interfere with crossmatching and require hours for identification and selection of compatible blood, thus **delaying surgery**. We ask that physicians collect pre-op blood at least one day and up to two weeks prior to surgery. Please work with your clinic staff to accomplish this whenever possible.

Can we help you?

Contact the Blood Bank medical director, fellows or residents at your site for any questions about transfusion.

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Consider Implications of Point of Care Testing

Point of care testing (POC), like any other process, understandably raises some concerns among users. Some suspect that POC is basically an expensive version of satellite or stat testing. Others are concerned that extra work will be directed to the already taxed nursing staff, decrease the lab's responsibility and not provide as accurate testing as the large, high-volume analyzers in the lab.

These perceptions result from insufficient information regarding the cost to produce test results, the depth of training needed to have a quality-testing program and concern on the part of laboratorians and other testing personnel.

Examination of the issues below should help nursing, laboratory staff, and those from other disciplines assess potential benefit from POC, determine the types of POC needed, and plan processes to implement and manage the program.

Organization

Ask these questions. What is the department's main function? What are the goals of the POC program? Does POC solve a problem? What strategies, other than POC, can be used to solve the problem?

Customer Service

One reason for implementing POC is to better meet customer service needs. In an era of increasing competition, cost and service are important factors driving health care. Both issues are related because service costs money. Remaining competitive may be a key reason to consider POC.

Value, defined as dollars saved in future patient care after initial costs, should also be determined. How does one assign a dollar amount to getting a test back 15 minutes earlier? Obviously, if a patient is unstable, the value is high. The opposite may be true in a stable patient.

Critics call for outcomes studies to determine whether POC justifies the costs; however, such studies are costly and fraught with protocol issues about data collection.

Knowing an organization's target population is key to customer service. Possible target

populations may include neonatal, child, adolescent, adult or geriatric patients. The needs of each group and related services vary. In addition, restrictions on sample size and venous access must be considered.

Growth and expansion into other venues and locations is a natural outcome of POC use.

Operational Issues

Before choosing to implement POC, consider operational issues to ensure a greater likelihood of success.

Quality Issues

Improved quality of care, e.g., reduced turnaround-times, is a central reason many, if not most, organizations to implement POC. On the other hand, the reliability of the tests performed by non-laboratorians via small instrumentation could cause concern. Some questions to ask: Does POC fit into the parameters of the performance improvement (PI) policy? Who currently performs blood collection? How will quality be measured and maintained? How will compliance with policies and procedures be monitored? How will errors be handled? What will be the corrective actions for errors?

POC poses a degree of risk to lab and hospital accreditation, to patients and to medical liability. There is also the possibility that the POC program itself will fail for a variety of reasons. Those who are not prepared to address these issues are probably not ready for POC. However, the benefits of POC for customer service are significant and warrant careful consideration.

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