

# Lab Focus

August 2002—periodic insert to 'Scope from Fairview Clinical Laboratories

## Sound bites. . . .

### Fairview Blood Component Transfusion Guidelines

The July 2002 (3<sup>rd</sup> edition) Blood Component Transfusion Guidelines are being distributed to the medical staff. Contact your site blood bank if you need a copy and have not received one.

### RSV Discontinued Over Summer

Rapid RSV (respiratory syncytial virus) antigen test will no longer be available during the summer months. Testing will be discontinued effective immediately and resume Sept. 16. RSV is a seasonal virus with outbreaks and epidemics occurring during the winter in temperate climates. Peak season in Minnesota is normally January through April. A review of data from Fairview-University Medical Center showed no RSV positive antigen tests from June through mid-September for the past five years. Fairview Southdale Hospital (FSH) data from June through October in 2000 and 2001 showed three positives, most occurring in October. As always, a viral culture will continue to be offered as an alternative.

### Change in HIV Quantitative Testing

Effective Aug. 5, the Clinical Virology Laboratory will discontinue in-house testing for branched chain (bDNA) HIV quantitative RNA. Declining volumes have led to increased costs and decreased productivity. Specimens will be referred to ARUP Laboratories. Methodology and specimen requirements remain the same. Testing is performed twice each week which should improve turnaround time.

### B-Type Natriuretic Peptide

The B-Type Natriuretic Peptide (Brain Natriuretic Peptide, BNP) assay was approved by the FDA for the diagnosis of congestive heart failure. Elevations of natriuretic peptides may also be seen in patients with myocardial infarction or undergoing renal dialysis. Testing is available from our reference laboratory on 3 mL blood in a purple (EDTA) tube. Testing is performed daily; results are reported within 24 to 48 hours. Fairview Laboratory Services is in the process of making testing available at a minimum of two sites.

### Pathology Reports on Riverside Campus of Fairview-University

Anatomic Pathology reports will continue to be generated in the laboratory and distributed to the PCUs until Co-Path goes live in the fall of 2002. At that time, they will display on FCIS.

## Two Glucose Tests Supported for Diabetes at Fairview Clinics

The new lab computer system in the clinics will support two types of testing for diabetes mellitus. They are the fasting blood glucose and the two-hour glucose test, which consists of a fasting blood glucose followed by a glucose drink and a two-hour blood glucose.

Results are reported according to the American Diabetes Association guidelines as follows:

#### Fasting Glucose Test

Normal blood glucose: <110 mg/dL  
Impaired fasting glucose: 110-125 mg/dL  
Diabetes mellitus: >125 mg/dL

#### Two-Hour Glucose Test, following glucose drink

Normal blood glucose: <140 mg/dL  
Prediabetes: 140-200 mg/dL  
Diabetes mellitus: >200 mg/dL

The five-hour glucose tolerance test is not recommended for evaluation of hypoglycemia. The elimination of the three-hour and five-hour glucose tolerance tests begins with the implementation of the new computer at each respective clinic.

Daniel Berntson, MD  
Fairview Clinics

## Opinion - Autopsy: An Important Quality Assurance Step

If Ralph Nader were grading hospitals in terms of quality of care, I believe that the first data he would request would be the hospital's autopsy rate: the higher the autopsy rate, the better the quality of care.

The autopsy is "as close to the truth as we can get."<sup>1</sup> Not only can autopsies teach about familiar diseases, they can uncover new ones. Some have claimed that when too few autopsies are performed, a nation's health care statistics may be incomplete and health care policies may not benefit from a full clinical picture. A *New England Journal of Medicine* study<sup>2</sup> revealed the inaccuracy of death certificates regarding

the underlying and proximate causes of death. The performance of an autopsy on a deceased patient is one of the most important quality assurance actions that a hospital can take.

Using modern technology, the physician often believes that he or she has performed a virtual autopsy during the patient's life using the newest imaging technology. While these tools provide new information in 30 percent of cases, they also lead to false-positive or false-negative diagnoses in 6 to 9 percent of cases.<sup>3</sup> Yet, how often does an autopsy reveal an unexpected finding? In a 1996 article by McPhee in *Medicine*, even when clinicians are certain of major diagnoses, they are wrong in 5 to 40 percent of cases.<sup>3</sup>

A Harvard study<sup>4</sup> that compared missed diagnoses before and after the advent of ultrasound and computerized tomography showed that regardless of the decade, physicians missed one-fourth of fatal infections, one-third of heart attacks and two-thirds of pulmonary emboli in patients who died.

The discordance between clinical and autopsy diagnoses of malignant neoplasms in a 1998 study<sup>5</sup> was 44 percent.

Doctors may feel awkward about approaching the family of a deceased patient to request an autopsy. However, in many malpractice suits, the presence of autopsy data usually assists the defendant by preventing spurious speculation by the plaintiff's lawyers and also serves to clarify questions the decedent's family may have about cause of death. It is my observation that generally the hospital units with the highest standards of patient care also are those which request the highest percentage of autopsies.

Factors affecting diagnostic discrepancies include: the incidence of various diseases in the community, age (the very young and the very old), type of hospital, subspecialization and length of hospital stay. Advantages of increased use of autopsies for risk management in hospitals include eliminating doubt about the cause of death and providing reassurance to families,

substituting facts for conjecture, reducing the number of malpractice claims and improving the quality of care. Quality improvement programs might adopt autopsy rates and clinical indicators as measurable outcomes. For example, it may be more important to know if there is a high incidence of death from pulmonary embolism in a hospital than to know the length of stay for pulmonary embolism.

Benefits of autopsies include the discovery of new diseases; causal relationships and complications; education of medical students, residents and doctors; evaluation of new technologies, therapies and interventions; research and a source of such organs as corneal grafts. Additional purposes include genetic counseling (molecular diagnostics); diagnosis of unexpected contagious diseases or occupational diseases; reinforcement of the importance of medical uncertainty; improvement of the accuracy of death certificates; positive effect on insurance and death benefit claims. The elderly often have multiple pathologies, some of which are undiagnosed during life and some of which may have familial implications, e.g., abdominal aortic aneurysm. An autopsy also may reduce feelings of guilt and anger among surviving relatives, giving them a sense of peace from knowing that nothing could have saved their loved one.

Despite the widely recognized value of the autopsy, there has been a widespread decrease in the number of autopsies performed in American hospitals and elsewhere. In 1971, the Joint Commission on Accreditation of Healthcare Organizations no longer made the performance of autopsies mandatory after the death of a hospitalized patient. Since that time, autopsy numbers have progressively declined, resulting in a national average of 10 percent of autopsies performed on patients who die in a hospital.<sup>6</sup> I suspect this is mainly attributable to assumed lack of reimbursement and/or fear of litigation. In the United States, most medical students never see an autopsy as part of their formal medical training.<sup>7</sup>

George Lundberg, MD (former editor of the *Journal of the American Medical Association*), alarmed by an autopsy rate that has fallen from about 50

percent to less than 10 percent today, stated: "The lack of an autopsy is the ultimate cover-up in medicine."<sup>8</sup>

At Fairview-University Medical Center, University campus, the autopsy rate is about 28 percent, which is well above the national average. At Fairview-University, Riverside campus, the rate is about 19 percent. Nevertheless, there is no room for complacency since the overall autopsy rate has declined. Our above average autopsy rate should be a point of pride for our organization. An increasing number of relatives of recently deceased persons are asking hospital staff whether an autopsy can be performed. Reimbursement should not be an obstacle because payment for autopsies is built into the diagnosis-related groups system.<sup>9</sup>

The information gained from a carefully performed autopsy with appropriate clinical correlation is unique in its contribution to medical knowledge, quality assurance and medical education. The autopsy can be one of the ultimate assurances of quality of medical care, one of the best guarantors of public confidence in medical care and a last gift of knowledge to the living from the dead.

1. McPhee SJ, quoted in *The Dallas Morning News*, October 8, 1998.
2. Kircher T, et al. The autopsy as a measure of accuracy of the death certificate. *N Engl J Med* 1985; 313:1263-9.
3. McPhee SJ. The autopsy: an antidote to misdiagnosis. *Medicine* 1996; 75:41-43.
4. Goldman L, et al. The value of autopsy in three modern eras. *N Engl J Med* 1983; 308:1000-5.
5. Burton EC, et al. Autopsy diagnoses of malignant neoplasms: how often are clinical diagnoses incorrect? *JAMA* 1998; 280: 245-8.
6. Brooks JP, Dempsey J. How can hospital autopsy rates be increased? *Arch Pathol Lab Med* 1991; 115:1107-11.
7. Hill RB, Anderson RE. The autopsy – medical practice and public policy. Boston, Butterworths 1988; 210.
8. Lundberg GD, quoted in the *Chicago Sun Times*, April 9, 2001.
9. Lundberg GD. Low-tech autopsies in the era of high-tech medicine: continued value for quality assurance and patient safety. *JAMA* 1998; 280:1273-4.

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## OSHA Prohibits Needle Removal and Phlebotomy Tube Holder Reuse

The Occupational Health and Safety Administration (OSHA) issued a news

release on June 12 that clarifies its revised compliance directive 2-2.69 from late 2001. OSHA notes that removal of contaminated needles from blood tube holders and reuse of those holders pose unnecessary risk to workers. The letter states that blood tube holders with needles attached should be immediately discarded into a sharps container after use. OSHA's intent is to prevent injuries to workers from the "back end" contaminated needle.

Although this is a new interpretation for Federal OSHA, some state OSHA plans, such as California's, have already prohibited needle removal and phlebotomy holder reuse for some time.

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## Physician Lab Orders: Current Terminology

To prevent your patients receiving unnecessary collections, please order labs using: AM, NEXT (lab draw), or q6h, q8h, etc. Orders for NOW, ASAP, and TODAY will be scheduled for the patient care unit's next scheduled collection time. The use of STAT should be reserved for medical emergencies.

To ensure the correct tests are ordered please use the FCIS terminology below. The use of SMA, GNE or CHEM is problematic for the patient care units and the laboratory. The terminology is outdated and there is not standardized agreement as to the content of the orders.

**Electrolyte Panel** - Includes Na, K, Cl, CO<sub>2</sub>

**Basic Metabolic Panel** - Includes Na, K, Cl, CO<sub>2</sub>, Urea Nitrogen, Creatinine, Glucose, Calcium

**Hepatic Panel** - Includes Albumin, Alkaline Phosphatase, ALT, AST, Bilirubin, Total and Direct, Protein

**Comprehensive Metabolic Panel** - Includes Basic Metabolic Panel, Hepatic Panel (except Direct Bilirubin)

**Lipid Panel** - Includes Cholesterol, Triglycerides, HDL Cholesterol, LDL Cholesterol, Calculated

**Renal Function Panel** - Includes Basic Metabolic Panel, Phosphorus, Albumin, Protein