Get Ready for Flu Season

The respiratory virus season is fast approaching, and although the severity of flu epidemics is always unpredictable, concern is heightened this year due to the vaccine shortage. Because intranasal vaccine (FluMist) may be utilized more frequently this year, clinicians ordering rapid testing for influenza antigen should be aware that FluMist may give falsely positive results. A published study performed last flu season showed that respiratory secretions obtained within the first week after vaccination with FluMist may test positive for influenza antigen A, B, or both.

Saint Luke’s Regional Lab offers influenza testing by rapid antigen detection and conventional virus culture. The rapid flu test differentiates between types A and B. Sensitivity is reported to be 89-97%, with the best performance obtained from nasopharyngeal (NP) washes or swabs. The optimal NP wash volume is 2-3 mL. Larger volumes may decrease test sensitivity. Nasopharyngeal swabs may be submitted with or without viral transport media or in saline. Swabs with wooden shafts, cotton tips, or calcium alginate swabs may interfere with results and should not be used. Viral culture can be performed subsequently on the same sample, if requested.

NP swabs with transport containers may be obtained from Microbiology, by calling 932-2435. Results are reported within 4 hours, and testing is available 24 hours daily.

Through October 30, the CDC reported regional influenza activity in one state (New York), local activity in one state (Texas), and sporadic activity in 26 states, including both Missouri and Kansas. Overall, influenza activity remains low and is less intense than during this same time period last year.

Fantastic Plastic Blood Collection Tubes

For more than 30 years, glass tubes have been used for collection of blood samples for laboratory testing. Because of safety and environmental concerns, plastic blood collection tubes have been gradually introduced. The major reasons for this change include:

- **Availability** – vendors are discontinuing some types of glass tubes
- **Safety** – plastic tubes are less likely to break, decreasing the risk of biohazard exposures
- **Compliance** – OSHA mandates that engineering and work practice controls should be used whenever possible to minimize employee exposure
- **Patient care** – plastic tubes have thicker tube walls and smaller collection volume per tube size, reducing the volume of blood drawn from patients. SLRL estimates that the volume of blood drawn per year will decrease by >500,000 mL per year.
- **Waste disposal** – plastic tubes weigh less than glass and can be more efficiently incinerated, significantly decreasing expenses for medical waste disposal.

For these reasons, Saint Luke’s Regional Laboratories will begin converting from glass to plastic blood collection tubes for both inpatients and outpatients on November 23. For the present time, glass tubes will continue to be used for:

- **SPS tube** (yellow) – blood cultures
- **ACD tube** (yellow) – HLA, DNA, paternity
- **SPC tube** (navy) – trace elements, toxicology.

Phlebotomists should be aware that blood flows a little slower into plastic tubes. The recommended order of draw for plastic tubes is:

1. Blood culture (yellow)
2. Coagulation (blue)
3. Serum chemistries (red)
4. Plasma chemistries (green)
5. CBC and blood bank (lavender)
6. Glucose (grey)

If a winged infusion set (butterfly) is being used and a blue top tube is the first tube being drawn, the tube will be under-filled due to the dead space air in the tubing. Under-filled tubes result in erroneous
coagulation test values. Therefore, blood should first be collected into a discard blue top tube prior to drawing the actual coagulation specimen. Blue top tubes do not contain a clot activator. The use of another type of tube immediately before a blue top tube could contaminate the coagulation specimen with clot activator, resulting in invalid results.

**Change in APTT Therapeutic Ranges for Heparin Monitoring**

Starting on November 23, Saint Luke’s Regional Laboratories will be switching to a different lot of APTT reagent and to plastic (rather than glass) collection tubes. We have determined that these modifications will result in slight changes to the APTT therapeutic ranges for heparin anticoagulation. The new recommended APTT therapeutic ranges will be as follows:

<table>
<thead>
<tr>
<th>Protocol</th>
<th>APTT (sec)</th>
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<tbody>
<tr>
<td>Standard weight-based heparin</td>
<td>60-100</td>
</tr>
<tr>
<td>Heparin with eptifibatide (Integrilin)</td>
<td>45-65</td>
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</tbody>
</table>

These new therapeutic ranges will be incorporated into the appropriate physician’s standing order forms. The APTT reference range will also change slightly to 22-32 seconds.

**Food Safety in KC**

Although the food supply in the United States is one of the safest in the world, an estimated 76 million people get sick, 300,000 are hospitalized, and 5,000 Americans die annually from foodborne illness, according to the CDC. While the vast majority of foodborne illnesses are mild & self-limited, those at risk for severe disease include the elderly, children, pregnant women, the immunocompromised, and healthy people who are exposed to a high dose of an infectious organism.

More than 250 different foodborne diseases have been described. The most common infectious cause of foodborne illness is bacteria, followed closely by viruses. In 2002 there were 226 bacterial foodborne outbreaks investigated by the CDC. The most common bacteria causing foodborne infections are Campylobacter, Salmonella and E. coli and the most common viruses are the caliciviruses, also known as Norwalk and Norwalk-like viruses. Foodborne infections are largely preventable. Simple measures such as cooking meat, poultry and eggs thoroughly, avoiding cross-contamination, and refrigerating leftovers promptly reduces the risk of infection.

From a public health standpoint, important lines of defense against foodborne illness include outbreak investigations and inspections by local health departments. In September 2004, the Kansas City Health Department began a new recognition program for restaurants that consistently demonstrate excellent compliance with the KCMO Food Code and other public health standards. The Awards will be issued annually in September, which is National Food Safety Month. This year, 168 of the 3,823 permitted food establishments were issued the Food Protection Quality Award.

A list of the Award recipients is available on the Kansas City Health Department’s website, [www.kcmo.org/health](http://www.kcmo.org/health). Food service inspections are public record, and results of Kansas City Health Department inspections for all food establishments are available and updated monthly at the website. Smoke-free establishments are also listed.

**Reminder: Elimination of Numeric Band Count**

In mid-December we will be switching to a new automated cell counter. At that time we will eliminate numeric band counts, except for infants less than 3 months of age. The rationale for this change has been explained in detail previously (Clinical Laboratory Letter, June 2004), and is related to the extremely poor performance of this test (inaccurate, imprecise, poor clinical utility) and the fact that there is little evidence-based justification for continuing to perform it. The following changes will be made in the reporting of differential counts:

- Numeric band counts will be eliminated in patients older than 3 months
- If bands are increased we will report out “LEFT SHIFT” (providing qualitative rather than quantitative information)
- We will continue to enumerate and report immature WBC such as metamyelocytes, myelocytes, promyelocytes, and blasts.

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