Utilizing Lab Resources Wisely

By Marilyn Hamilton, MD, PhD

There is a new group – Utilizing Lab Resources Wisely. This newsletter will introduce you to this group and seek your input in ways to make this group helpful to you.

First – what does “wisely” mean? Most of the time clinicians think “lab utilization” is all about being told that they are using the lab too much. But under utilization is sometimes a problem. Furthermore, interpretation of lab results is also a concern. So this group is interested in projects where lab tests are used too often or not often enough and where results are not interpreted in the best way possible. We are also looking into integrating our recommendations and any education which comes along with them into Cerner so that it will enhance your workflow and will always be easily accessible.

Who is on the team? Really everyone is – yes, that means you – the reader. The primary team consists of Chris Walsh-Kelly, Marilyn Hamilton, Uttam Garg, Keith Mann and Gary Wasserman. But this team will bring in laboratory and clinical experts for each and every project. Look out – we want you.

What projects have been started? Three projects are underway:

1. Optimal Sample for Plasma Amino Acid Testing: We worked on optimization of specimen collection for amino acids analysis so that the results will be as meaningful as possible. The team came up with the following recommendations.

   **Plasma Amino Acids: Fasting Sample is the Best:**
   For best results with interpretation and to reduce the false positive and the false negative rate, a fasting sample is the optimal sample for plasma amino acids analysis. Except for emergent or critically ill children, the patient must be fasting for plasma amino acids analysis. The recommended fasting periods are: ages 0-6 M = 3 hrs, 7-24 M = 6 hrs and >24 M = 8 hrs. The Meditech order entry has been updated to reflect these changes. A new required field has been added which prompts the user to answer if the patient is fasting or not. Another field to list TPN or therapeutic drugs/antibiotics has been added. Due to limited space, the detailed information about fasting periods is not available on the main order entry screen. Holding shift key and pressing F8 provides the recommended information on fasting periods for different age groups.

   We are working with Cerner for implementation of these changes.

2. Urine Analysis and Urine Analysis (UA) with Microscopic Exam (UAM): Both of these tests are offered. If a clinician orders a UA and the nitrite or leukocyte esterase is positive or there is greater than trace blood or protein, the microscopic exam will be done even if
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it was not ordered. The microscopic exam is manual and time consuming. Seeking to minimize the patient’s time in the ER means not doing unnecessary testing. The unnecessary testing takes time and it consumes the technologists time which could be better used for other testing. We are working with the Emergency Medicine Section and Nephrology Section to determine when the microscopic exam can be done based on the UA results and when it should be done even with a normal UA.

3. Celiac Testing: Testing for celiac disease requires multiple lab tests which are ideally done in a sequence. For example, some of the tests require that the patient have IgA but IgA deficiency is not uncommon in patients with celiac disease. Furthermore, IgA may not be detectable in children less than 1 year old. When that is the case alternative testing needs to be done which is based on IgG. But maternal IgG is a factor to be considered in children less than 1 year old. Finally there are new tests available which need to be incorporated in the testing algorithm. We are working with the Gastrointestinal Section to develop better algorithmic testing and to have appropriate reporting which offers clinical interpretations.

What other projects might we do? Here are a few things on our list for possible future projects: (1) the use of CRP vs ESR, (2) Pre-operative screening, (3) Platelet aggregation, (4) Testing for Failure to Thrive, (4) Urine organic acids, and (5) Envenomation.

What ideas do you have? This really is your group. We want to work with you to make lab testing as useful as possible. Let us hear from you.