



Appendix A

A NEW MORE COMPREHENSIVE APPROACH TO CHECKING FOR INTERFERENCE BY HEMOLYSIS, LIPEMIA AND ICTERUS IN CLINICAL BIOCHEMISTRY SAMPLES

May 1, 2012

Effective throughout May 2012 (staggered approach), a more comprehensive approach to checking on the presence of hemolysis, lipemia and icterus in patient blood specimens and reporting on the effects of these on test results (where applicable) will be implemented. This change is part of our overall strategy to improve the quality of laboratory results. Hence forth, blood specimens submitted to the Biochemistry labs at Seven Oaks, Concordia, Victoria, Grace and Misericordia hospitals/facility will also be processed and analyzed for the presence of hemolysis, lipemia and icterus.

The presence of hemolysis, lipemia and icterus (potential interferences of some tests) will be automatically detected by spectral analysis on these samples. If significant hemolysis or icterus is detected, then interpretative comments will be reported with results of affected tests. If gross hemolysis (>5 g Hb/L) is detected, no testing will be performed on that sample. If significant lipemia is detected, the samples with affected tests will be cleared by ultracentrifugation and results reported with cautionary comments. On-site ultracentrifugation will be phased in, with Seven Oaks being the first to implement. Other community sites will continue to send lipemic samples to SBH for ultracentrifugation. If ultracentrifugation is unable to clear gross lipemia, then a comment advising of its unsuitability for analysis will be reported.

The major changes that you will encounter are:

1. The list of tests affected by hemolysis, lipemia and icterus has been expanded, based on new information available. For example, it is now recognized that hemolysis falsely decreases high sensitivity troponin T results, whereas previously this was not commented on.
2. Interpretative and cautionary comments will be reported for each test result affected instead of a single comment on the lab report for a group of tests. These comments will indicate the degree of sample interferent (slight, moderate or gross) and its impact on the test result. This reporting format will generate more pages per patient report than previously generated.

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Physician Alert



3. In situations where testing cannot be performed (for example, in gross/unacceptable hemolysis) and specimen recollection is required, the following will be applied:
 - For those locations that do not have immediate access to results (EDIS, trickle print or autofax), the lab will phone and fax the ward or unit
 - For those locations that have EDIS, trickle print or autofax, the laboratory will not phone the ward
4. Lipemic specimens that require analysis of lipids, carbon dioxide (TCO₂), lactate, ammonia or ACTH will not be cleared by ultracentrifugation before analysis, consistent with long-time practice. The reason for this is that these tests are affected by ultracentrifugation. These results will be reported with a cautionary comment advising of the degree of lipemia.

These changes relate to a significant enhancement in laboratory equipment and quality practices in the labs at these institutions. This enhancement will improve the consistency and quality of our test results and allow us to cope better with the ever increasing workload. We do not anticipate delays in turnaround time, except where additional manual steps are required to ensure reliable results. Please be patient over the next few weeks as we adapt to this new strategy. It is important though that you communicate with the lab about any new or lingering issues or concerns that arise.

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