DIAGNOSTIC SERVICES OF MANITOBA
SERVICES DE DIAGNOSTIC DU MANITOBA

MEMORANDUM

MS559 – 820 Sherbrook Street, Winnipeg, MB R3A 1R9

Date: November 14, 2012

To: Hematology Labs at DSM Rural Sites

cc: Dr. Amin Kabani, Chief Medical Officer, DSM

From: Hematopathology Laboratory, Diagnostic Services of Manitoba

Re: aPTT Monitoring for Unfractionated Heparin (UFH)

Despite its limitations, the aPTT assay continues to be used for monitoring patients on therapeutic doses of unfractionated heparin (UFH), particularly if co-morbidities prevent the use of alternative anticoagulants such as LMWH (low molecular weight heparin).

The aPTT therapeutic ranges have been traditionally established with *in vitro* spiking of plasma with known heparin doses, which is no longer acceptable by our accrediting body, the American College of Pathologists (CAP). At the behest of CAP, the aPTT therapeutic range at WRHA is now established with *ex vivo* method, i.e. correlation of anti-Xa levels to aPTT on samples from heparinized patients collected mostly in the tertiary care hospitals. Even these facilities barely meet the number of patients required for the range calculation, given the current shift to using LMWH whenever possible.

Meeting the new "*ex vivo*" standard is unrealistic for laboratories serving sites other than large tertiary centers, because of the difficulty to collect the large number of blood samples from patients on therapeutic UFH in a timely fashion. Therefore, the local laboratory is unable to provide a therapeutic range or a nomogram for clinical use.

The therapeutic range established with the new method was released on February 29, 2012 and will be re-evaluated when there is a change of lot number of aPTT reagent, or a change of source of UFH or a change of coagulation instrument.

The WRHA Combined Hemostasis and Hematology DSG (Disease Site Group) has taken the newly established therapeutic range into account when evaluating the UFH nomograms that are currently used in WRHA facilities.

Provided that aPTT results are generally comparable across different DSM sites and the same UFH is used across the province, the same heparin therapeutic range and nomograms should be clinically useful province-wide.

The nomograms for UFH are clinically dependent and two different nomograms, i.e. ACS (Acute Cardiac Service) and VTE (venous thromboembolism), are available at WRHA.

Physicians planning UFH anticoagulation for a patient are encouraged to contact the appropriate WRHA clinical discipline consultants (cardiac service, clinical hematology service) for UFH nomograms to guide dose adjustments.

If you have any questions, contact Dr. Ping Sun at 204-258-1114 (office), 204-935-2908 (pager) or e-mail at psun@dsmanitoba.ca