

Date: March 13, 2012

To: Edmonton Zone – All Medical Staff

From: The Divisions of Adult Clinical Hematology and Hematopathology

RE: **New oral anticoagulants – Direct Thrombin Inhibitors & Direct Factor Xa inhibitors**

Dear Colleagues:

New oral anticoagulants are now licensed and available in our community for a number of indications. Currently, the most widely used of these is the direct thrombin inhibitor Dabigatran (Pradax). Unlike Warfarin this drug is not affected by food, has fewer drug interactions, and does not require routine coagulation monitoring. However, this drug still carries an age and dose-related **risk of hemorrhage**, which, unlike Warfarin, **cannot be reversed**. Cases of major bleeding in patients on Dabigatran in the Edmonton and Central zones have occurred and are increasing in frequency. (At the time of this communication, no cases of Factor Xa inhibitor associated hemorrhage have been identified.) The purpose of this communication is to inform clinicians of this problem and suggest management in case of bleeding:

Laboratory assessment:

- There is currently no single laboratory test routinely available that provides specific evaluation of the anticoagulation effect of Dabigatran or other novel anticoagulants.
- Dabigatran is mostly excreted via the kidneys with a half-life of approximately 12 hours in those with normal renal function, but prolonged in those with abnormal renal function. Creatinine/GFR measurement is essential in bleeding patients.
- A normal INR and PTT should exclude the presence of significant levels of Dabigatran or other novel anticoagulants in most, but not all, patients.
- **The most sensitive test for the presence of Dabigatran is the Thrombin Time** – a normal result excludes the presence of this drug, but not the other new oral anticoagulants. The most sensitive test for the presence of Direct Factor Xa inhibitors is the PT/INR.
- There are currently no locally available tests that accurately quantifies Dabigatran anticoagulant activity or that of the other novel anticoagulants.

Management of hemorrhage in patients:

- **Discontinue the medication.**
- **Consultation with Transfusion Medicine or Clinical Hematology is strongly recommended.**
- Consider use of oral activated charcoal.
- Investigate the source of bleeding.
- Order: CBC, PT/INR, PTT, Fibrinogen, Thrombin Time, Creatinine and Cross Match.
- Provide supportive care.

Detailed additional information on both Direct Thrombin and Factor Xa inhibitors is provided in the **Appendix** posted on the AHS website at: <http://www.albertahealthservices.ca/3290.asp>