



NAC STATEMENT ON REVERSAL OF DIRECT ORAL ANTICOAGULANTS (DOACs)



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NAC STATEMENT ON REVERSAL OF DOACs

Direct Thrombin Inhibitors (i.e. Dabigatran)

Due to the availability and licensure in Canada of a specific antidote (Idarucizumab) for the direct thrombin inhibitor (DTI) Dabigatran, the use of prothrombin complex concentrates (PCC), FEIBA or recombinant Factor VIIa in the reversal of this agent is not recommended. The administration of frozen plasma or Vitamin K will not be of any benefit in the setting of Direct Thrombin Inhibitor associated bleeding, unless concomitant coagulopathy of a different etiology is present.

Direct Factor Xa Inhibitors (i.e. Rivaroxaban, Apixaban, Edoxaban)

Although animal, human volunteer and small retrospective observational studies have been published using plasma protein products for reversal of direct oral anticoagulants (DOACs), there are currently no good quality controlled studies in humans using clinical bleeding outcomes as an endpoint evaluating these as reversal agents. With this lack of evidence for dosing, safety and efficacy of these products the National Advisory Committee on Blood and Blood Products (NAC) cannot develop a recommendation for use of PCC, FEIBA or recombinant Factor VIIa in the reversal of Direct Factor Xa Inhibitors. The administration of frozen plasma or Vitamin K will not be of any benefit in the setting of Direct Factor Xa Inhibitor associated bleeding, unless concomitant coagulopathy of a different etiology is present. However, it is important to ensure that the following steps are considered in patients who present with **moderate or major bleeding** while on a Direct Factor Xa Inhibitors until a specific antidote becomes available:

1. Consult with Hematology/Thrombosis and/or Transfusion Medicine Physician.
2. Hold the anticoagulant.
3. Hold any concomitant antiplatelet drugs. Transfusion of platelets may be appropriate in the setting of major bleeding and recent antiplatelet use.
4. Investigate and treat source of bleeding. Utilize local therapy / site control as appropriate.
5. Transfuse red blood cells as appropriate.
6. Transfuse platelets if significant thrombocytopenia ($<50 \times 10^9/L$)
7. If possible, delay surgical / interventional procedures until the drug has cleared.
8. Consider use of Tranexamic acid (no studies are available for dosing or efficacy but possible doses may be 1 gram or 10 mg/kg IV).



In cases of severe, life-threatening bleeding and if Factor Xa inhibitor is active (on the basis of timing of the last dose and creatinine clearance), Thrombosis Canada recommends administration of PCC 50 IU/kg, to a maximum dose 3,000 IU as a bleeding management strategy.

NAC recommends that institutional/regional protocols for management of life or limb threatening bleeding due to Factor Xa inhibitors should be developed and implemented. Protocols should include relevant laboratory testing and hemostatic management.

Additional information from Thrombosis Canada is available at www.thrombosiscanada.ca.