VCMC Clinical Practice Guideline
Management of Bleeding Associated with Target-Specific Oral Anticoagulants

The contents of this clinical practice guideline are to be used as a guide. Healthcare professionals should use sound clinical judgement and individualize patient care. This CPG is not meant to be a replacement for training, experience, CME or studying the latest literature and drug information.

No antidotes currently exist for target-specific oral anticoagulants. Pharmacologic reversal of target-specific oral anticoagulant requires enough blood factors to overwhelm the effects of the drug. The following guideline is based on limited and theoretical evidence (i.e. animal studies, small clinical studies, case reports) and is subject to change. The risks and benefits of blood factors for each individual must be carefully weighed as thrombosis may occur.

Management of Bleeding: See Flowsheet

Monitoring of Target-Specific Oral Anticoagulants

The following hematologic tests are recommended when monitoring is desired:

<table>
<thead>
<tr>
<th>Usefulness of LabTest</th>
<th>Dabigatran (Pradaxa®)</th>
<th>Rivaroxaban (Xarelto®)</th>
<th>Apixaban (Eliquis®)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strong</td>
<td>Ecarin Clotting Time (ECT)</td>
<td>Chromogenic anti-Xa</td>
<td>Chromogenic anti-Xa</td>
</tr>
<tr>
<td></td>
<td>Thrombin Time (TT)</td>
<td>PT</td>
<td>PT</td>
</tr>
<tr>
<td>Weak</td>
<td>PT/INR</td>
<td>aPTT</td>
<td>aPTT</td>
</tr>
</tbody>
</table>

References:
Management of Bleeding Associated with Target-Specific Oral Anticoagulants Flowsheet

Note: No antidotes currently exist. This flowsheet is based on limited data and is subject to change as more information becomes available.

**Factor Xa Inhibitor**
- Rivaroxaban (Xarelto®)
- Apixaban (Eliquis®)

**Patient with Bleeding Associated with Target-Specific Oral Anticoagulant**

**Direct Thrombin Inhibitor**
- Dabigatran (Pradaxa®)

**Mild-Moderate Bleeding Non-Urgent**
- Delay next dose or discontinue treatment as appropriate.
- Half-life is extended in renal dysfunction or coadministration of CYP 3A4 inhibitor.

**Severe bleeding**
- Hold therapy
- Symptomatic treatment
- Mechanical compression
- Surgical intervention
- Fluid replacement
- Hemodynamic support
- Activated charcoal if ingested <2 hours
- Consider Kcentra for refractory bleeding
- 4-factor PCC (Kcentra™)
  - 50 units/kg

**Life Threatening Bleeding**
- Hold further doses
  - CrCl >50 mL/min, hold 1-2 days
  - CrCl <50 mL/min, hold 3-5 days
  - Half life is extended in renal dysfunction
- Monitor patient for rebound effect from anticoagulation & thromboembolism

**Mild-Moderate Bleeding Non-Urgent**
- Hold therapy
- Symptomatic treatment
- Mechanical compression
- Surgical intervention
- Fluid replacement
- Hemodynamic support
- Activated charcoal if ingested <2 hours
- Hemodialysis
- Consider aPCC (FEIBA®) for refractory bleeding (Hematology consult required)

**Severe Bleeding**
- Hold therapy
- Symptomatic treatment
- Mechanical compression
- Surgical intervention
- Fluid replacement
- Hemodynamic support
- Activated charcoal if ingested <2 hours
- Hemodialysis
- aPCC (FEIBA®) 20-50 units/kg (Hematology consult required)

**Life Threatening Bleeding**
- Hold Dabigatran and check aPTT & TT
- Prolonged aPTT: Dabigatran present and may be contributing to bleed
- aPCC (FEIBA®) 20-50 units/kg
- Hemodialysis

---

*aPCC reverses the effect of dabigatran on hemostatic parameters but had no effect on coagulation assays. If half-life of infused clotting factor is shorter than that of the anticoagulant, a rebound in the intensity of the anticoagulation can occur. TT not a reliable measure of the degree of hemostasis but suggests that dabigatran remains active in system. Potential for hypercoagulopathy concern; use lowest dose necessary. 50 units/kg of 4-factor PCC caused an immediate and complete reversal. Concomitant use with drugs that are cytochrome P450 3A4 inhibitors increases in drug exposure.*