**NOTE:** The following therapies have been tried, but outcomes do not support their use, and they are **not** recommended:

- Antifibrinolytics (aminocaproic acid, tranexamic acid)
- Recombinant factor VIIa (NovoSeven®)
- Prothrombin complex concentrate (PCC– Profilnine®)
- Frozen Fresh Plasma (FFP)

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**Bleeding on Dabigatran Therapy – Emergent Reversal**

- **Minor Bleeding**
  - (e.g., lacerations, post-dialysis bleeding, bleeding from a compressible site)
  - Hold dabigatran until there is adequate hemostasis
  - Consider silver nitrate cauterization as applicable

- **Major Bleeding**
  - (e.g., active GI bleed, trauma, and uncontrollable epistaxis)
  - Hold dabigatran until there is adequate hemostasis
  - Oral activated charcoal if ingestion in last 2 hours
    - **Dose:** 1 g/kg of oral suspension – round to the nearest 25 grams
  - Fluid replacement and hemodynamic support
  - Topical thrombin as appropriate
  - If fibrinogen is < 200 mg/dL give 2 pools cryoprecipitate
  - If platelets are < 50 K/uL give platelets
  - Consider idarucizumab (Praxbind®)*
    - **Dose:** 2.5 grams infused over 4 minutes x 2 doses for a total dose of 5 grams

- **Life-Threatening Bleeding**
  - (e.g., GI hemorrhage with hemodynamic compromise, retropharyngeal or retroperitoneal bleeding, intracranial hemorrhage, major trauma)
  - Hold dabigatran until there is adequate hemostasis
  - Oral activated charcoal if ingestion in last 2 hours
  - Fluid replacement and hemodynamic support
  - Topical thrombin as appropriate
  - If fibrinogen is < 200 mg/dL give 2 pools cryoprecipitate
  - If platelets are < 50 K/uL give platelets
  - Consider idarucizumab (Praxbind®)*
    - **Dose:** 2.5 grams infused over 4 minutes x 2 doses for a total dose of 5 grams

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*Note: Idarucizumab (Praxbind®) may **only** be ordered by an attending physician.*
Baseline Labs

- Serum creatinine (chem-7)
- Ionized calcium (goal ionized of 4.6 – 5.3 mg/dL)
- CBC
- PTT
- TT
- Arterial or venous pH (goal pH > 7.25)
  - During the process of resuscitation, attempt to achieve goal of pH > 7.25 to facilitate the effectiveness of reversal agents.
- Fibrinogen
  - Fibrinogen should not be reduced as a result of dabigatran use; but in the event it is low, steps to address it should be taken.

Monitoring

- Repeat ionized calcium, arterial or venous pH, CBC, fibrinogen, and PTT 2 hours after each intervention
- Repeat at least every 6 hours x 24 hours and as indicated clinically
- A normal TT rules out presence of dabigatran

<table>
<thead>
<tr>
<th>Lab Test</th>
<th>Normal Range (seconds)</th>
<th>Turnaround Time (minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTT</td>
<td>24 – 34</td>
<td>45 - 60</td>
</tr>
<tr>
<td>TT</td>
<td>13.0 – 20.0</td>
<td>30 – 60</td>
</tr>
</tbody>
</table>

Consults

- Surgery consult as needed
- Consider Hematology consult for continued bleeding

References

- Product Information: PRADAXA(R) oral capsules, dabigatran etexilate mesylate oral capsules. Boehringer Ingelheim Pharmaceuticals (per manufacturer), Ridgefield, CT, 2015.
- Product Information: PRAXBIND(R) intravenous injection, idarucizumab intravenous injection. Boehringer Ingelheim Pharmaceuticals (per FDA), Ridgefield, CT, 2015.

Orderset

- OSU IP GEN: DABIGATRAN ANTICOAGULANT REVERSAL (2834)

Quality Measures

- Mortality rate
- Patient received necessary consults
  - Surgery
  - Hematology
- Percent of patients who receives non-recommended therapies:
  - Antifibrinolytic therapy
  - Recombinant factor VIIa (NovoSeven®)
  - PCC (Profilnine®)
  - FFP
- Hospital length of stay (days)
- Rate of thrombosis in patients who received prothrombotic agent
  - Deep vein thrombosis (DVT)
  - Stroke
  - Pulmonary embolism (PE)
  - Myocardial infarction (MI)

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Guideline Approved
