

# Dabigatran Use Guideline

Org Wide Chapters, Medication Management  
University of Utah Hospitals and Clinics Standard

## PURPOSE:

- A. This guideline outlines information to assist providers and caregivers in using dabigatran etexilate (Pradaxa®) appropriately and safely, to include:
1. Appropriate prescribing
  2. Lab monitoring and interpretation
  3. Reversal and bleeding management
  4. Peri-procedural considerations
  5. Recommended clinical follow-up
  6. Drug administration considerations
  7. Patient education

## GUIDELINE:

### A. Appropriate Prescribing

1. *Indication:* Prevention of stroke and systemic embolism in non-valvular atrial fibrillation. This is the only FDA approved indication.
  - a. Consideration of use for any other indication requires consultation by the Thrombosis Service or Hematology.
2. *Restrictions:* Dabigatran is not to be used in the following populations:
  - a. **Patients with CrCl <15 mL/min** or on dialysis Dabigatran may not be ordered for patients with CrCl<15 mL/min. An appropriate alternative should be selected.

*Caution: Patients with CrCl 15-30 mL/min* . A maximum dose of dabigatran 75 mg twice daily may be ordered for patients with CrCl 15-30 mL/min; however, other anticoagulants should be considered before the use of dabigatran.
  - b. **Patients taking rifampin.**

*Rationale:* Dabigatran is a substrate of the efflux transporter p-glycoprotein (p-gp). Rifampin is a known inducer of p-gp and has been shown to significantly decrease dabigatran blood concentrations.
  - c. **The following stroke populations:**
    1. Stroke thought to be at risk for hemorrhagic transformation
    2. Acute ischemic or hemorrhagic stroke within the previous 14 days
    3. Large ischemic stroke within the previous 6 months (Note: large ischemic stroke is commonly defined as a stroke covering >1/3 of the MCA territory)

*Rationale:* Stroke patients were excluded from published clinical trials due to the high risk of adverse events.
3. **Prescribing Resources that are Available:**
  - a. **Clinical screening checklist:** Tool to aid the prescriber in selecting patients for whom dabigatran is the appropriate therapy:  
<http://healthcare.utah.edu/thrombosis/dabigatran.html>

- b. **Consultation services:** Assistance in screening, risk/benefit analysis, financial analysis, and initiation of therapy is available from the Thrombosis Service upon request
  - 1. Consultation information:  
[http://healthcare.utah.edu/thrombosis/newagents/TS.Dabi\\_Consult.Info.pdf](http://healthcare.utah.edu/thrombosis/newagents/TS.Dabi_Consult.Info.pdf)
  - 2. Request for consultation:  
[http://healthcare.utah.edu/thrombosis/newagents/TS.Dabi\\_Request.Consult.pdf](http://healthcare.utah.edu/thrombosis/newagents/TS.Dabi_Request.Consult.pdf)

## **B. Laboratory Monitoring and Interpretation**

- 1. Routine laboratory monitoring is NOT recommended, due to the predictable pharmacokinetics of dabigatran.
- 2. Prothrombin time/International Normalized Ratio (PT/INR):
  - a. Not sensitive to dabigatran
  - b. Should NOT be used to assess anticoagulant activity in patients on dabigatran
- 3. Activated partial thromboplastin time (aPTT):
  - a. Relatively insensitive to dabigatran
  - b. Can be used as a qualitative assessment of anticoagulant activity in the setting of a major bleeding event or need for urgent surgery
  - c. If the aPTT is normal (i.e. <30 seconds) there is no significant drug effect and no additional testing is needed.
  - d. If the aPTT is abnormal (i.e. >30 seconds), the clinician may perform a Thrombin Time or Ecarin Clotting Time, if results would change the management of the patient's situation.
- 4. Thrombin time (TT):
  - a. Is sensitive to dabigatran
  - b. A normal TT excludes the presence of significant dabigatran levels
  - c. Best used as a qualitative measure to ensure no presence of dabigatran
- 5. Ecarin Clotting Time (ECT):
  - a. May provide both a qualitative and quantitative assessment of anticoagulant activity
  - b. A normal ECT generally excludes the presence of significant dabigatran levels.
- 6. **Laboratory Monitoring Resources that are Available:**
  - a. **Laboratory monitoring guidance document:**  
[http://healthcare.utah.edu/thrombosis/newagents/TS.Dabi\\_lab.monitor.pdf](http://healthcare.utah.edu/thrombosis/newagents/TS.Dabi_lab.monitor.pdf)

## **C. Reversal and Bleeding Management**

- 1. **Reversal:** There is currently no reversal agent or antidote for dabigatran.
  - a. Hemodialysis may be effective in removing approximately 60% of dabigatran, since dabigatran is not highly protein-bound and is primarily renally eliminated.
  - b. The administration of activated charcoal may be helpful in the event of an acute (<1-2 hours) overdose.
  - c. The administration of clotting factors (FFP, PCC, etc.) is NOT anticipated to be effective in reversing the effects of dabigatran due to the fact that the mechanism of action of dabigatran involves clotting factor inhibition and not clotting factor depletion.
  - d. Supportive care and control of the bleeding site are cornerstones of therapy in patients who have life-threatening dabigatran-related bleeding.
- 2. **Bleeding Management:**
  - a. Delay or discontinuation of drug administration.
  - b. Supportive care (fluids, blood products, etc.) and control of bleeding site in patients with life-threatening bleeding.

- c. Administration of clotting factor products may be considered as a last resort when supportive measures and control of site bleeding have failed.

**3. *Reversal and Bleeding Management Resources that are Available:***

- a. **Principles and guidance for reversal of dabigatran effect and management of bleeding:**

[http://healthcare.utah.edu/thrombosis/newagents/TS.Dabi\\_Bleeding.pdf](http://healthcare.utah.edu/thrombosis/newagents/TS.Dabi_Bleeding.pdf)

**D. Peri-procedural Considerations**

1. As with any anticoagulant, the patient or referring physician should notify the proceduralist or surgeon that the patient is taking dabigatran several weeks prior to any invasive procedure.
2. For MINOR bleeding risk procedures, dabigatran may be continued without interruption (anticipated effect is similar to performing procedure while on warfarin or low molecular weight heparin).
3. For EMERGENT Surgery, anticipate an increased risk of bleeding, avoid neuraxial anesthesia, and consider consultation with the Thrombosis Service or Hematology.
4. For URGENT Surgery, delay surgery 24-36 hours and consider consultation with Thrombosis Service or Hematology.
5. Avoid neuraxial anesthesia in patients on dabigatran.
6. For all other procedures, peri-procedural management is dependent on the patient's renal function and the bleeding risk associated with the procedure. Please refer to dabigatran peri-procedural guideline on Thrombosis Service website for details.
7. ***Peri-procedural Management Resources that are Available:***
  - a. **Dabigatran peri-procedural guidance document:** Contains general guidelines and table detailing peri-procedural guidance based on bleeding risk of procedure and renal function:

[http://healthcare.utah.edu/thrombosis/newagents/TS.Dabi\\_Periproc.pdf](http://healthcare.utah.edu/thrombosis/newagents/TS.Dabi_Periproc.pdf)

**E. Recommended clinical follow-up**

1. Serum creatinine and calculated creatinine clearance
  - a. Baseline
  - b. Annually
  - c. More frequently as indicated by clinical situation
2. Phone follow to assess drug tolerance, side effects, adverse events
  - a. 1-2 weeks after dabigatran initiation
  - b. 4-6 weeks after dabigatran initiation
  - c. Quarterly thereafter
3. ***Clinical Follow-up Resources that are Available:***
  - a. **Dabigatran clinical follow-up plan:**

[http://healthcare.utah.edu/thrombosis/newagents/TS.Dabi\\_Clin\\_FU.pdf](http://healthcare.utah.edu/thrombosis/newagents/TS.Dabi_Clin_FU.pdf)

**F. Drug Administration Considerations**

1. Do not crush, chew, open, or administer via NG/OG/J-tube due to significantly increased drug bioavailability if capsule opened
2. Administer with food if dyspepsia occurs
3. Keep in original bottle and tightly capped
4. Must use within 30 days after bottle opened

**G. Patient Education**

1. Educate and document patient education in the electronic medical record in accordance with the existing Anticoagulation Education guideline:  
[http://intranet.uuhsc.utah.edu/standards/org\\_wide/med\\_mgmt/Anticoagulation%20Education%20Guideline.pdf](http://intranet.uuhsc.utah.edu/standards/org_wide/med_mgmt/Anticoagulation%20Education%20Guideline.pdf)
2. ***Education Resources that are Available:***

- a. Patient Information Sheet:  
[http://healthcare.utah.edu/thrombosis/newagents/TS.Dabi\\_Patient.Info.pdf](http://healthcare.utah.edu/thrombosis/newagents/TS.Dabi_Patient.Info.pdf)
- b. Health Care Provider Information Sheet:  
[http://healthcare.utah.edu/thrombosis/newagents/TS.Dabi\\_Provider.Info.pdf](http://healthcare.utah.edu/thrombosis/newagents/TS.Dabi_Provider.Info.pdf)

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**OWNER:** Manager, Drug Information Service

**APPROVAL BODY:** Pharmacy and Therapeutics Committee