

HIGHLIGHTS OF PRESCRIBING INFORMATION

These highlights do not include all the information needed to use DABIGATRAN ETEXILATE CAPSULES safely and effectively. See full prescribing information for DABIGATRAN ETEXILATE CAPSULES.

DABIGATRAN etexilate capsules, for oral use

Initial U.S. Approval: 2010

- (A) **PREMATURE DISCONTINUATION OF DABIGATRAN ETEXILATE CAPSULES INCREASES THE RISK OF THROMBOTIC EVENTS, AND (B) SPINAL/EPIDURAL HEMATOMA**
See full prescribing information for complete boxed warning
(PRE) **PREMATURE DISCONTINUATION OF DABIGATRAN ETEXILATE CAPSULES INCREASES THE RISK OF THROMBOTIC EVENTS:** Premature discontinuation of any oral anticoagulant, including dabigatran etexilate capsules, increases the risk of thrombotic events. To reduce this risk, consider coverage with another anticoagulant if dabigatran etexilate capsules are discontinued for a reason other than pathological bleeding or completion of a course of therapy (2.6, 2.7, 2.8, 5.1).

- (B) **SPINAL/EPIDURAL HEMATOMA:** Epidural or spinal hematomas may occur in patients treated with dabigatran etexilate capsules who are receiving neuraxial anesthesia or undergoing spinal puncture. These hematomas may result in long-term or permanent paralysis or other neurological deficits. Consider the benefits and risks before neuraxial intervention and if observed, treat urgently. Consider the benefits and risks before neuraxial intervention in patients who are or who need to be anticoagulated (5.3).

- INDICATIONS AND USAGE**
To reduce the risk of stroke and systemic embolism in adult patients with non-valvular atrial fibrillation (1.1)
For the treatment of deep venous thrombosis (DVT) and pulmonary embolism (PE) in adult patients who have been treated with a parenteral anticoagulant (2.2, 2.3)
To reduce the risk of recurrence of DVT and PE in adult patients who have been previously treated (1.3)
For the prophylaxis of DVT and PE in adult patients who have undergone hip replacement surgery (1.4)

- DOSE AND ADMINISTRATION**
Non-valvular Atrial Fibrillation in Adult Patients:
For patients with CrCl >= 30 mL/min: 150 mg orally, twice daily (2.2)
For patients with CrCl 15 to 30 mL/min: 75 mg orally, twice daily (2.2)
Treatment of DVT and PE in Adult Patients:
For patients with CrCl >= 30 mL/min: 150 mg orally, twice daily after 5 to 10 days of parenteral anticoagulation (2.2)
For patients with CrCl < 30 mL/min: Not recommended (1.7)
Prophylaxis of DVT and PE Following Hip Replacement Surgery in Adult Patients:
For patients with CrCl >= 30 mL/min: 150 mg orally, twice daily after previous treatment (2.2)
Benefit of DVT and PE Following Hip Replacement Surgery in Adult Patients:
Not recommended (1.7)

- CONTRAINDICATIONS**
Active pathological bleeding (4)
History of serious hypersensitivity reaction to dabigatran etexilate capsules (4)
Mechanical prosthetic heart valve (4)

- WARNINGS AND PRECAUTIONS**
Increased Risk of Thrombotic Events after Premature Discontinuation (5.1)
Risk of Bleeding (5.2)
Spinal/Epidural Anesthesia or Puncture (5.3)
Thrombocytopenia and Hematoma in Patients with Prosthetic Heart Valves (5.4)
Effect of P-gp Inducers and Inhibitors on Dabigatran Exposure (5.5)
Increased Risk of Thrombosis in Patients with Triple-Positive Antiphospholipid Syndrome (5.6)

- ADVERSE REACTIONS**
Most common adverse reactions (> 15%) are gastrointestinal adverse reactions and bleeding (6.1)

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P-gp inducers: Avoid coadministration with dabigatran etexilate capsules (5.5)
P-gp inhibitors in adult patients with CrCl >= 30 mL/min: Reduce dosage or avoid (7)
P-gp inhibitors in adult patients with CrCl < 30 mL/min: Not recommended (1.7)

- USE IN SPECIFIC POPULATIONS**
Lactation: Breastfeeding not recommended (8.2)
Geriatric Use: Risk of bleeding increases with age (8.5)

How to use Dabigatran etexilate capsules is approved for Boehringer Ingelheim Pharmaceuticals, Inc.'s Pradaxa (dabigatran etexilate) capsules. However, due to Boehringer Ingelheim Pharmaceuticals, Inc.'s marketing exclusivity rights, this drug product is not labeled with that information.

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2.2 Recommended Dabigatran Etexilate Capsules Dosage for Adults

Table with 3 columns: Indication, Dose, and Dosage. Rows include Stroke and Systemic Embolism in Non-valvular AF, Treatment of DVT and PE, and Prophylaxis of DVT and PE Following Hip Replacement Surgery.

Reduction of Risk of Stroke and Systemic Embolism in Non-valvular Atrial Fibrillation in Adult Patients

For patients with creatinine clearance (CrCl) > 30 mL/min, the recommended dosage of dabigatran etexilate capsules is 150 mg orally, twice daily, for patients with severe renal impairment (CrCl 15 to 30 mL/min), the recommended dosage of dabigatran etexilate capsules is 75 mg twice daily (see Use in Specific Populations (8.6) and Clinical Pharmacology (12.3)). Dosing recommendations for patients with a CrCl < 15 mL/min or on dialysis cannot be provided.

Treatment of Deep Venous Thrombosis and Pulmonary Embolism in Adult Patients

For patients with CrCl >= 30 mL/min, the recommended dosage of dabigatran etexilate capsules is 150 mg taken orally, twice daily, after 5 to 10 days of parenteral anticoagulation. Dosing recommendations for patients with a CrCl < 30 mL/min or on dialysis cannot be provided (see Use in Specific Populations (8.6) and Clinical Pharmacology (12.3)).

Reduction in the Risk of Recurrence of Deep Venous Thrombosis and Pulmonary Embolism in Adult Patients

For patients with CrCl >= 30 mL/min, the recommended dosage of dabigatran etexilate capsules is 150 mg taken orally, twice daily, after previous treatment. Dosing recommendations for patients with a CrCl < 30 mL/min or on dialysis cannot be provided (see Use in Specific Populations (8.6) and Clinical Pharmacology (12.3)).

Prophylaxis of Deep Vein Thrombosis and Pulmonary Embolism in Adult Patients Following Hip Replacement Surgery

For patients with CrCl >= 30 mL/min, the recommended dosage of dabigatran etexilate capsules is 110 mg taken orally 1-4 hours before surgery and after hemostasis is achieved. For patients with severe renal impairment (CrCl 15 to 30 mL/min), the recommended dosage of dabigatran etexilate capsules is 75 mg taken orally 1-4 hours before surgery and after hemostasis is achieved. For patients with CrCl < 15 mL/min or on dialysis, cannot be provided (see Use in Specific Populations (8.6) and Clinical Pharmacology (12.3)).

2.6 Dosing Adjustments

Assess renal function prior to initiation of treatment with dabigatran etexilate capsules. Periodically assess renal function as clinically indicated (i.e., more frequently in clinical situations that may be associated with a decline in renal function) and adjust therapy accordingly. Discontinue dabigatran etexilate capsules in patients who develop acute renal failure while on dabigatran etexilate capsules and consider alternative anticoagulant therapy.

Generally, in adult patients, the extent of anticoagulation does not need to be assessed. When necessary, use aPTT or CrCl, and not INR, to assess for anticoagulation in adult patients on dabigatran etexilate capsules. (see Warnings and Precautions (5.2) and Clinical Pharmacology (12.2)).

Reduction of Risk of Stroke and Systemic Embolism in Non-valvular Atrial Fibrillation

In patients with moderate renal impairment (CrCl 30 to 50 mL/min), concomitant use of the P-gp inhibitor dronedronide or systemic thrombolysis can be expected to increase dabigatran exposure similar to severe renal impairment. Reduce the dosage of dabigatran etexilate capsules to 75 mg twice daily (see Warnings and Precautions (5.5), Drug Interactions (7.1), and Clinical Pharmacology (12.3)).

Treatment and Reduction in the Risk of Recurrence of Deep Venous Thrombosis and Pulmonary Embolism in Adult Patients

Dosing recommendations for patients with CrCl < 30 mL/min are not available. Avoid use of concomitant P-gp inhibitors in patients with CrCl < 50 mL/min (see Warnings and Precautions (5.5), Drug Interactions (7.1) and Clinical Pharmacology (12.3)).

Prophylaxis of Deep Vein Thrombosis and Pulmonary Embolism Following Hip Replacement Surgery

Dosing recommendations for patients with CrCl < 30 mL/min or on dialysis cannot be provided. Avoid use of concomitant P-gp inhibitors in patients with CrCl < 50 mL/min (see Dosage and Administration (2.2), Warnings and Precautions (5.5), Drug Interactions (7.1), and Clinical Pharmacology (12.3)).

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2.7 Converting from or to Parenteral Anticoagulants
For adult patients currently receiving a parenteral anticoagulant, start dabigatran etexilate capsules 2 to 6 hours before the time that the dose of the parenteral drug was to have been administered or at the time of discontinuation of a continuously administered parenteral drug (e.g., intravenous unfractionated heparin).

2.8 Discontinuation for Surgery and Other Interventions
If possible, discontinue dabigatran etexilate capsules 5 to 7 days (CrCl >= 30 mL/min) or 3 to 5 days (CrCl < 30 mL/min) before surgery, spinal puncture, or placement of a spinal or epidural catheter or in any of your complete hemostasis may be required (see Use in Specific Populations (8.6) and Clinical Pharmacology (12.3)).

If surgery cannot be delayed, there is an increased risk of bleeding (see Warnings and Precautions (5.2)). This type of risk of bleeding should be weighed against the urgency of intervention (see Warnings and Precautions (5.1, 5.3)). Use a specific reversal agent (idarucizumab) in cases of emergency surgery or urgent procedures when reversal of the anticoagulant effect of dabigatran is needed in adults. Efficacy and safety of idarucizumab have not been established in pediatric patients (see Warnings and Precautions (5.2)). Refer to the drug's prescribing information for additional information. Restart dabigatran etexilate capsules as soon as medically appropriate.

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2.9 Dosing Forms and Strengths
150 mg capsules with a cream opaque/clear/opaque body size 2 "H" capsules imprinted with "H" on cap and "011" on body with black ink, filled with mixture of off-white to yellowish white pellets.
Dabigatran etexilate 110 mg capsules are cream opaque/clear/opaque body size 1 "H" capsules imprinted with "H" on cap and "010" on body with black ink, filled with mixture of off-white to yellowish white pellets.
75 mg capsules with a cream opaque/clear/opaque body size 2 "H" capsules imprinted with "H" on cap and "010" on body with black ink, filled with mixture of off-white to yellowish white pellets.

4 CONTRAINDICATIONS
Dabigatran etexilate capsules are contraindicated in patients with:
Active pathological bleeding (see Warnings and Precautions (5.2) and Adverse Reactions (6.1))
History of a serious hypersensitivity reaction to dabigatran etexilate capsules, or to one of the excipients of the product
Mechanical prosthetic heart valve (see Warnings and Precautions (5.4))

5 WARNINGS AND PRECAUTIONS
5.1 Increased Risk of Thrombotic Events after Premature Discontinuation
Premature discontinuation of any oral anticoagulant, including dabigatran etexilate capsules, in the absence of adequate alternative anticoagulation increases the risk of thrombotic events. Dabigatran etexilate capsules are discontinued for a reason other than pathological bleeding or completion of a course of therapy, consider coverage with another anticoagulant and restart dabigatran etexilate capsules as soon as medically appropriate (see Dosage and Administration (2.6, 2.7, 2.8)).

5.2 Risk of Bleeding
Dabigatran etexilate capsules increase the risk of bleeding and can cause significant and, sometimes, fatal bleeding. Promptly evaluate any signs or symptoms of blood loss (e.g., a drop in hemoglobin and/or hematocrit or hypotension). Discontinue dabigatran etexilate capsules in patients with active pathological bleeding (see Dosage and Administration (2.4)).

5.3 Spinal/Epidural Anesthesia or Puncture
When neuraxial anesthesia (spinal/epidural anesthesia) or spinal puncture is employed, patients treated with anticoagulant agents are at a risk of developing an epidural or spinal hematoma which can result in long-term or permanent paralysis (see Boxed Warning).

To reduce the potential risk of bleeding associated with the concurrent use of dabigatran etexilate and epidural or spinal anesthesia/analgesia or spinal puncture, consider the pharmacologic profile of dabigatran (see Clinical Pharmacology (12.3)). Placement or removal of an epidural catheter is best performed after the anticoagulant effect of dabigatran is low; however, the exact timing to reach a sufficiently low anticoagulant effect in each patient is not known.

Should the physician decide to administer anticoagulation in the context of epidural or spinal anesthesia/analgesia or lumbar puncture, monitor frequently to detect any signs or symptoms of neurological impairment, such as midline back pain, sensation and motor deficits (numbness, tingling, or weakness in lower limbs), bowel and/or bladder dysfunction. Instruct patients to immediately report if they experience any of the above signs or symptoms, if signs or symptoms of spinal hematoma are observed, initiate urgent diagnostic and treatment including consideration for spinal cord decompression even though such treatment may not prevent or reverse neurological sequelae.

5.4 Thrombocytopenia and Bleeding Events in Patients with Prosthetic Heart Valves
The safety and efficacy of dabigatran etexilate capsules in adult patients with bileaflet mechanical prosthetic heart valves was evaluated in the RE-ALIO study, in which patients with bileaflet mechanical prosthetic heart valves (recently implanted or implanted more than three months prior to enrollment) were randomized to dose-adjusted warfarin or 150 mg, 220 mg, or 300 mg dabigatran etexilate capsules once daily. The RE-ALIO study was terminated early due to the occurrence of significantly more thrombotic events (venous thrombosis, stroke, transient ischemic attack, and myocardial infarction) and an excess of major bleeding (predominantly post-operative pericardial effusions requiring intervention for hemodynamic compromise) in the dabigatran treatment group as compared to the warfarin treatment arm. These bleeding and thrombotic events were seen both in patients who were initiated on dabigatran etexilate capsules postoperatively within three days of mechanical bileaflet valve implantation, as well as in patients whose valves had been implanted more than three months prior to enrollment. Therefore, the use of dabigatran etexilate capsules are contraindicated in all patients with mechanical prosthetic valves (see Contraindications (4)).

The use of dabigatran etexilate capsules for the prophylaxis of thrombotic events in patients with atrial fibrillation in the setting of the presence of valvular heart disease, including the presence of a bioprosthetic heart valve, has not been studied and is not recommended.

5.5 Effect of P-gp Inducers and Inhibitors on Dabigatran Exposure
The concomitant use of dabigatran etexilate capsules with P-gp inducers (e.g., rifampin) reduces exposure to dabigatran and should generally be avoided (see Clinical Pharmacology (12.3)). Concomitant use of P-gp inducers with dabigatran etexilate capsules may reduce dabigatran exposure and impaired renal function are the major independent factors that result in increased exposure to dabigatran (see Clinical Pharmacology (12.3)). Concomitant use of P-gp inhibitors in patients with renal impairment is expected to produce increased exposure of dabigatran compared to that seen with either factor alone.

Reduction of Risk of Stroke and Systemic Embolism in Non-valvular Atrial Fibrillation in Adult Patients
Reduce the dosage of dabigatran etexilate capsules in patients with moderate renal impairment (CrCl 30 to 50 mL/min). Avoid use of dabigatran etexilate capsules and P-gp inhibitors in patients with severe renal impairment (CrCl 15 to 30 mL/min) (see Use in Specific Populations (8.6)).

Treatment and Reduction in the Risk of Recurrence of Deep Venous Thrombosis and Pulmonary Embolism in Adult Patients
Avoid use of dabigatran etexilate capsules and concomitant P-gp inhibitors in patients with CrCl < 50 mL/min (see Drug Interactions (7.1) and Use in Specific Populations (8.6)).

Prophylaxis of Deep Vein Thrombosis and Pulmonary Embolism in Adult Patients Following Hip Replacement Surgery
Avoid use of dabigatran etexilate capsules and concomitant P-gp inhibitors in patients with CrCl < 50 mL/min (see Drug Interactions (7.1) and Use in Specific Populations (8.6)).

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5.6 Increased Risk of Thrombosis in Patients with Triple-Positive Antiphospholipid Syndrome
Direct-acting oral anticoagulants (DOACs), including dabigatran etexilate capsules, are not recommended for use in patients with triple-positive antiphospholipid syndrome (APS), for patients with APS (especially those who are a triple-positive syndrome for lupus anticoagulant, anticardiolipin, and anti-beta 2 glycoprotein I antibodies). There are DOACs that have been associated with increased rates of recurrent thrombotic events compared with vitamin K antagonist therapy.

6 ADVERSE REACTIONS
Most commonly observed adverse reactions are described elsewhere in the labeling:
Increased Risk of Thrombotic Events after Premature Discontinuation (see Warnings and Precautions (5.1))
Risk of Bleeding (see Warnings and Precautions (5.2))
Spinal/Epidural Anesthesia or Puncture (see Warnings and Precautions (5.3))
Thrombocytopenia and Bleeding Events in Patients with Prosthetic Heart Valves (see Warnings and Precautions (5.4))
Increased Risk of Thrombosis in Patients with Triple-Positive Antiphospholipid Syndrome (see Warnings and Precautions (5.6))

The most serious adverse reactions reported with dabigatran etexilate capsules were related to bleeding (see Warnings and Precautions (5.2)).

6.1 Clinical Trials Experience
The most commonly reported adverse reactions, adverse reactions rates observed in the clinical trials that are related to dabigatran etexilate capsules compared to warfarin in clinical trials of another drug may not reflect the rates observed in practice.
Adult Trials

Reduction of Risk of Stroke and Systemic Embolism in Non-valvular Atrial Fibrillation
The RE-LY (Randomized Evaluation of Long-Term Anticoagulation Therapy) study provided safety information on the use of two doses of dabigatran etexilate capsules and warfarin in clinical trials of another drug may not reflect the rates observed in practice.
Table 2 Summary of Treatment Exposure in RE-LY

Table 2 Summary of Treatment Exposure in RE-LY. Columns: Dabigatran Etexilate Capsules 110 mg twice daily, Dabigatran Etexilate Capsules 150 mg twice daily, Warfarin. Rows: Total number treated, Exposure > 12 months, > 24 months, Mean exposure (months), Total patient-years.

Reduction of Risk of Stroke and Systemic Embolism in Non-valvular Atrial Fibrillation
The RE-LY study provided safety information on the use of two doses of dabigatran etexilate capsules and warfarin in clinical trials of another drug may not reflect the rates observed in practice.
Table 2 Limited information is presented on the 110 mg dosing arm because this dose is not approved.

Table 2 Summary of Treatment Exposure in RE-LY

Table with 3 columns: Dabigatran Etexilate Capsules 110 mg twice daily, Dabigatran Etexilate Capsules 150 mg twice daily, Warfarin. Rows: Total number treated, Exposure > 12 months, > 24 months, Mean exposure (months), Total patient-years.

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Table 3 Adjusted Major Bleeding Events in Treated Patients

Table with 4 columns: Event, Dabigatran Etexilate Capsules 150 mg 150 mg (N=998), Warfarin N=998 (HR 0.95), Dabigatran Etexilate Capsules 110 mg (N=998). Rows: Major Bleeding, Intracranial Hemorrhage (ICH), Hemorrhagic Stroke, Other ICH, Gastrointestinal, Fatal Bleeding, ICH.

Table 3 Adjusted Major Bleeding Events in Treated Patients

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Table



- You can take dabigatran etexilate capsules with or without food. Taking dabigatran etexilate capsules with food may help if you have an upset stomach.
- Swallow dabigatran etexilate capsules whole with a full glass of water. Tell your healthcare provider if you are not able to swallow the capsules whole. Do not break, chew, or empty the pellets from the capsule.
- Do not run out of dabigatran etexilate capsules. Refill your prescription before you run out. If you plan to have surgery, or a medical or a dental procedure, tell your healthcare provider and dentist that you are taking dabigatran etexilate capsules. You may have to stop taking dabigatran etexilate capsules for a short time. See **“What is the most important information I should know about dabigatran etexilate capsules?”**
- If you miss a dose of dabigatran etexilate capsules, take it as soon as you remember. If your next dose is less than 6 hours away, skip the missed dose. Do not take two doses of dabigatran etexilate capsules at the same time.
- If you take too much dabigatran etexilate capsules, go to the nearest hospital emergency room or call your healthcare provider.
- Call your healthcare provider right away if you fall or injure yourself, especially if you hit your head. Your healthcare provider may need to check you.
- Dabigatran etexilate capsules come in a bottle or in a blister pack. Only open 1 bottle of dabigatran etexilate capsules at a time. Finish your opened bottle of dabigatran etexilate capsules before opening a new bottle or blister package.
- After opening a bottle of dabigatran etexilate capsules, use within 4 months. See **“How should I store dabigatran etexilate capsules?”**
- When it is time for you to take a dose of dabigatran etexilate capsules, only remove your prescribed dose of dabigatran etexilate capsules from your open bottle.
- Tightly close your bottle of dabigatran etexilate capsules right away after you take your dose.

What are the possible side effects of dabigatran etexilate capsules?
Dabigatran etexilate capsules can cause serious side effects. See “What is the most important information I should know about dabigatran etexilate capsules?”

- Allergic Reactions.** Some adults taking dabigatran etexilate capsules have developed symptoms of an allergic reaction.
 - Call your healthcare provider if you get symptoms of an allergic reaction, such as:
 - hives
 - rash
 - itching
- Get medical help right away if you get any of the following symptoms of a serious allergic reaction with dabigatran etexilate capsules:**
 - chest pain or chest tightness
 - trouble breathing or wheezing
 - swelling of your face or tongue
 - feeling dizzy or faint

Common side effects of dabigatran etexilate capsules in adults include:

- indigestion, upset stomach, or burning
- stomach-area (abdominal) pain or discomfort

 Tell your healthcare provider if you have any side effect that bothers you or that does not go away.

These are not all of the possible side effects of dabigatran etexilate capsules. Call your doctor for medical advice about side effects. You may report side effects to FDA at 1-800-FDA-1088.

- How should I store dabigatran etexilate capsules?**
- Store dabigatran etexilate capsules at room temperature 68°F to 77°F (20°C to 25°C).
 - After opening the bottle, use dabigatran etexilate capsules within 4 months. Safely throw away any unused dabigatran etexilate capsules after 4 months.
 - Keep dabigatran etexilate capsules in the original bottle or blister package to keep them dry (protect the capsules from moisture). Do not put dabigatran etexilate capsules in pill boxes or pill organizers.
 - Tightly close your bottle of dabigatran etexilate capsules right away after you take your dose.
- Keep dabigatran etexilate capsules and all medicines out of the reach of children.

General information about the safe and effective use of dabigatran etexilate capsules

Medicines are sometimes prescribed for purposes other than those listed in a Medication Guide. Do not use dabigatran etexilate capsules for a condition for which it was not prescribed. Do not give dabigatran etexilate capsules to other people, even if they have the same symptoms that you have. They may harm them.

This Medication Guide summarizes the most important information about dabigatran etexilate capsules. If you would like more information, talk with your healthcare provider. You can ask your pharmacist or healthcare provider for information about dabigatran etexilate capsules that is written for health professionals.

What are the ingredients in dabigatran etexilate capsules?

Active ingredient: dabigatran etexilate mesylate
Inactive ingredients: hydroxypropyl cellulose, hydroxymethylcellulose, sucrose and corn starch, talc and tartaric acid. The capsule shell is composed of iron oxide red, iron oxide yellow, hydroxymethylcellulose and titanium dioxide. The capsules are printed with black ink containing black iron oxide, potassium hydroxide, propylene glycol, shellac and strong ammonia solution.

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For more information, call Hetero Labs Limited at 1-866-495-1995.
 Medication Guide available at <http://camberpharma.com/medication-guides>
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This Medication Guide has been approved by the U.S. Food and Drug Administration.
 Revised: 06/2024

caused severe vaginal/uterine bleeding close to parturition at an exposure 2.6 times the human exposure. At a similar exposure, dabigatran decreased the number of implantations when rats were treated prior to mating and up to implantation (gestation Day 3). Dabigatran administered to pregnant rats and rabbits during organogenesis up to exposures 8 and 13 times the human exposure, respectively, did not induce major malformations. However, the incidence of delayed or irregular ossification of fetal skull bones and vertebrae was increased in the rat (see Data).

The estimated background risk of major birth defects and miscarriage for the indicated population is unknown. All pregnancies have a background risk of birth defect, loss, or other adverse outcomes. In the U.S. general population, the estimated background risk of major birth defects and miscarriage in clinically recognized pregnancies is 2% to 4% and 15% to 20%, respectively.

Clinical Considerations
Disease-associated maternal and/or embryofetal risk
 Prepregnancy counseling on thrombocytopenia that is higher for women with underlying thrombotic disease and certain high-risk pregnancy conditions. Published data describe that women with a previous history of venous thrombosis are at high risk for recurrence during pregnancy.

Fetal/Neonatal adverse reaction
 Use of anticoagulants, including dabigatran etexilate capsules, may increase the risk of bleeding in the fetus and neonate. Monitor neonates for bleeding (see Warnings and Precautions (5.2)).

Labor or delivery
 All patients receiving anticoagulants, including pregnant women, are at risk for bleeding. Dabigatran etexilate capsules use during labor and delivery in women who are receiving neuraxial anesthesia may result in epidural or spinal hematoma. Consider discontinuation or use of shorter acting anticoagulant as delivery approaches (see Warnings and Precautions (5.2, 5.3)).

Data
Animal Data
 Dabigatran has been shown to decrease the number of implantations when male and female rats were treated at a dosage of 70 mg/kg (about 2.6 to 3.0 times the human exposure at MRHD of 300 mg/day) based on area under the curve (AUC) comparisons) prior to mating and up to implantation (gestation Day 6). Treatment of pregnant rats after implantation with dabigatran at the same dose increased the number of dead offspring and caused severe vaginal/uterine bleeding close to parturition. Dabigatran administered to pregnant rats and rabbits during organogenesis up to maternally toxic doses of 200 mg/kg (8 and 13 times the human exposure, respectively), at a MRHD of 300 mg/day based on AUC comparisons did not induce major malformations, but increased the incidence of delayed or irregular ossification of fetal skull bones and vertebrae in the rat (see Data).

Death of offspring and mother rats during labor in association with uterine bleeding occurred during treatment of pregnant rats from implantation (gestation Day 7) to weaning (lactation Day 21) with dabigatran at a dose of 70 mg/kg (about 2.6 times the human exposure at MRHD of 300 mg/day based on AUC comparisons).

2.2 Lactation
Risk Summary
 There are no data on the presence of dabigatran in human milk, the effects on the breastfed child, or on milk production. Dabigatran and/or its metabolites were present in rat milk. Breastfeeding is not recommended during treatment with dabigatran etexilate capsules.

2.3 Females and Males of Reproductive Potential
 The risk of clinically significant uterine bleeding, potentially requiring gynecological surgical interventions, identified with oral anticoagulants including dabigatran etexilate capsules should be assessed in females of reproductive potential and those with abnormal uterine bleeding.

2.4 Pediatric Use
 Safety and effectiveness of dabigatran etexilate capsules have not been established in pediatric patients with non-valvular atrial fibrillation or those who have undergone hip replacement surgery.
Pediatric use information is approved for Boehringer Ingelheim Pharmaceuticals, Inc.'s Pradaxa (dabigatran etexilate) capsules. However, due to Boehringer Ingelheim Pharmaceuticals, Inc.'s marketing exclusivity rights, this drug product is not labeled with that information.

2.5 Geriatric Use
 Of the total number of patients in the RE-LY study, 82% were 65 and over, while 40% were 75 and over. The risk of stroke and bleeding increases with age, but the level of recovery after stroke is similar in patients 75 and over. See Warnings and Precautions (5), Adverse Reactions (6.1), and Clinical Studies (14.1).

2.6 Renal Impairment
Reduction of Risk of Stroke and Systemic Embolism in Non-valvular Atrial Fibrillation in Adult Patients
 No dose adjustment of dabigatran etexilate capsules is recommended in patients with mild to moderate renal impairment (see Clinical Pharmacology (12.2) and/or the dose of dabigatran etexilate capsules in patients with severe renal impairment (CrCl 15 to 30 mL/min) (see Dosage and Administration (2.2, 2.4) and Clinical Pharmacology (12.3)). Dosing recommendations for patients with CrCl < 15 mL/min or on dialysis cannot be provided.
Reduction of Risk of Stroke and Systemic Embolism in Non-valvular Atrial Fibrillation in Adult Patients
 Patients with severe renal impairment (CrCl < 30 mL/min) were excluded from RE-COVER.

Dosing recommendations for patients with CrCl < 30 mL/min or on dialysis cannot be provided. Avoid use of dabigatran etexilate capsules in patients with CrCl < 30 mL/min or on dialysis cannot be provided.

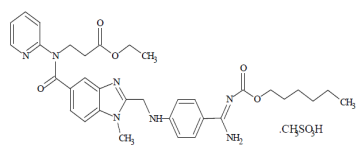
Prophylaxis of Deep Vein Thrombosis and Pulmonary Embolism in Adult Patients Following Hip Replacement Surgery
 Patients with severe renal impairment (CrCl < 30 mL/min) were excluded from RE-NOVATE II. Dosing recommendations for patients with CrCl < 30 mL/min or on dialysis cannot be provided.

Avoid use of dabigatran etexilate capsules with concomitant P-gp inhibitors in patients with CrCl < 30 mL/min (see Warnings and Precautions (5.5), Drug Interactions (7.1), and Clinical Pharmacology (12.2, 12.3)).

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10 OVERDOSAGE
 Accidental overdose may lead to hemorrhagic complications. In the event of hemorrhagic complications, initiate appropriate clinical support; discontinue treatment with dabigatran etexilate capsules, and investigate the source of bleeding. A specific reversal agent (idarubicin) is available for adult patients.
 Dabigatran is primarily eliminated by the kidneys with a low plasma protein binding of approximately 35%. Hemodialysis can remove dabigatran; however, data supporting this approach are limited. Using a high-flux dialyzer, blood flow rate of 200 mL/min, and dialysate flow rate of 700 mL/min, approximately 49% of total dabigatran can be cleared from plasma over 4 hours. At the same dialysate flow rate, approximately 57% can be cleared using a dialyzer blood flow rate of 300 mL/min, with no appreciable increase in clearance with higher blood flow rates. Upon cessation of hemodialysis, a redistribution effect of approximately 7% to 15% is seen. The effect of dialysis on dabigatran etexilate capsules would be expected to vary based on patient specific characteristics. Measurement of aPTT or ECT may help guide therapy (see Warnings and Precautions (5.2) and Clinical Pharmacology (12.2)).

11 DESCRIPTION
 The chemical name for dabigatran etexilate mesylate, a direct thrombin inhibitor, is N-[2-[[[4-(hexyloxy)carbamoyl]amino]methyl]piperidin-1-ylmethyl]-1H-benzimidazo[5,4-b]pyridin-3-yl]propanoic acid, (2S,3S) isomer, methyl ester, mesylate salt. The empirical formula is C₂₄H₃₀N₄O₆ and the molecular weight is 723.8 (mesylate salt), 627.75 (free base). The structural formula is:



Dabigatran etexilate mesylate is a yellow-white to yellow color powder. Sparingly soluble in methanol.

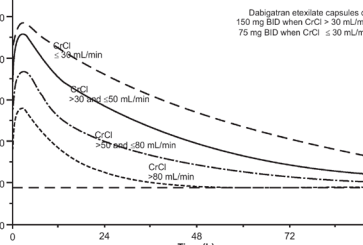
Dabigatran etexilate capsules are supplied in 75 mg, 110 mg and 150 mg strengths for oral administration. Each capsule contains dabigatran etexilate mesylate as the active ingredient. 150 mg dabigatran etexilate (equivalent to 172.50 mg dabigatran etexilate mesylate), 110 mg dabigatran etexilate (equivalent to 126.53 mg dabigatran etexilate mesylate), or 75 mg dabigatran etexilate (equivalent to 86.46 mg dabigatran etexilate mesylate) along with the following inactive ingredients: hydroxypropyl cellulose, hydroxymethylcellulose, sucrose and corn starch, talc and tartaric acid. The capsule shell is composed of iron oxide red, iron oxide yellow, hydroxymethylcellulose and titanium dioxide. The capsules are printed with black ink containing black iron oxide, potassium hydroxide, propylene glycol, shellac and strong ammonia solution.

12 CLINICAL PHARMACOLOGY
12.1 Mechanism of Action
 Dabigatran and its active glucuronides are competitive, direct thrombin inhibitors. Because thrombin (serine protease) enables the conversion of fibrinogen into fibrin during the coagulation cascade, its inhibition prevents the development of a thrombus. Both free and clot-bound thrombin, and thrombin-induced platelet aggregation are inhibited by the active moieties.

12.2 Pharmacodynamics
 All recommended therapeutic doses, dabigatran etexilate prohibits the coagulation markers such as aPTT, ECT, TT, and dTT. INR is relatively insensitive to the exposure to dabigatran and cannot be interpreted the same way as for warfarin monitoring.

Adults
 The aPTT test provides an approximation of dabigatran etexilate capsules anticoagulant effect. The average time course for effects on aPTT following approved regimens in patients with various degrees of renal impairment is shown in Figure 2. The curves represent mean levels without confidence intervals; variations should be expected when measuring aPTT. While advice cannot be provided on the level of recovery of aPTT needed in any particular clinical setting, the curves can be used to estimate the time to get to a particular level of recovery, when the time since the last dose of dabigatran etexilate capsules is not precisely known. In the RE-LY trial, the median (IQR to 90th percentile) trough aPTT in patients receiving the 150 mg dose was 32 (16 to 76) seconds.

Figure 2 Average Time Course for Effects of Dabigatran on aPTT Following Approved Dabigatran Etexilate Capsules Dosing Regimens in Adult Patients with Various Degrees of Renal Impairment*



*Simulations based on PK data from a study in subjects with renal impairment and PK/aPTT relationships derived from the RE-LY study. aPTT prolongation in RE-LY was measured centrally in citrate plasma using PTT Reagent Roche Diagnostics GmbH, Mannheim, Germany. There may be quantitative differences between various established methods for aPTT assessment.

The degree of anticoagulant activity can also be assessed by the scapin clotting time (ECT). The test is a more specific measure of the effect of dabigatran than activated partial thromboplastin time (aPTT). In the RE-LY trial, the median (IQR to 90th percentile) trough ECT in patients receiving the 150 mg dose was 63 (44 to 103) seconds.

In orthopedic hip surgery patients, maximum aPTT response (>10 to dabigatran and baseline aPTT were higher shortly after surgery than at later time points (e.g. <3 days after surgery).

Cardiac Electrophysiology
 No prolongation of the QTc interval was observed with dabigatran etexilate at doses up to 600 mg.
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12.3 Pharmacokinetics
 Dabigatran etexilate mesylate is absorbed as the dabigatran etexilate ester. The ester is then hydrolyzed, forming dabigatran, the active moiety. Dabigatran is metabolized to four different acyl glucuronides and both the glucuronides and dabigatran have similar pharmacokinetic characteristics. Pharmacokinetics described here refer to the sum of dabigatran and its glucuronides. Dabigatran displays dose-proportional pharmacokinetics in healthy adult subjects and adult patients in the range of doses from 10 to 400 mg. Given twice daily, dabigatran's accumulation factor in adults is approximately two.

Absorption
 The absolute bioavailability of dabigatran following oral administration of dabigatran etexilate is approximately 3% to 7%. Dabigatran etexilate is a substrate of the efflux transporter P-gp. After oral administration of dabigatran etexilate in healthy volunteers, C_{max} occurs at 1-hour post-administration in the fastest state. Co-administration of dabigatran etexilate capsules with a high-fat meal delays the time to C_{max} by approximately 2 hours but has no effect on the bioavailability of dabigatran; dabigatran etexilate capsules may be administered with or without food.

Distribution
 Dabigatran is approximately 35% bound to human plasma proteins. The red blood cell to plasma partitioning of dabigatran measured as total radioactivity is less than 0.3. The volume of distribution of dabigatran is 50 to 70 L.

Elimination
 Dabigatran is eliminated primarily in the urine. Renal clearance of dabigatran is 80% of total clearance after intravenous administration. After oral administration of radiolabeled dabigatran, 7% of radioactivity is recovered in urine and 86% in feces. The half-life of dabigatran in healthy adult subjects is 12 to 17 hours.

Metabolism
 After oral administration, dabigatran etexilate is converted to dabigatran. The cleavage of the dabigatran etexilate by esterases-catalyzed hydrolysis to the active principal dabigatran and the predominant metabolic reaction. Dabigatran is not a substrate, inhibitor, or inducer of CYP450 enzymes. Dabigatran is subject to conjugation, forming pharmacologically active acyl glucuronides. Four positional isomers, 1-O, 2-O, 3-O, and 4-O-acylglucuronides exist, and each accounts for less than 10% of total dabigatran in plasma.

Specific Populations
Renal Impairment
 An open, parallel-group, single-center study compared dabigatran pharmacokinetics in healthy adult subjects and adult patients with mild to moderate renal impairment receiving a single dose of dabigatran etexilate capsules 150 mg. Exposure to dabigatran increases with severity of renal function impairment (Table 10). Similar findings were observed in the RE-LY, RE-COVER and RE-NOVATE II trials.

Renal Function	CrCl (mL/min)	Increase in AUC	Increase in C _{max}	t _{1/2} (h)
Normal	≥ 80	1x	1x	13
Mild	50 to 80	1.5x	1.1x	15
Moderate	30 to 50	3.2x	1.7x	18
Severe*	15 to 30	6.3x	2.1x	27

*Patients with severe renal impairment were not studied in the RE-LY, RE-COVER and RE-NOVATE II. Dosing recommendations in subjects with severe renal impairment are based on pharmacokinetic modeling (see Dosage and Administration (2.2, 2.4) and Use in Specific Populations (8.6)).

Hepatic Impairment
 Administration of dabigatran etexilate capsules in adult patients with moderate hepatic impairment (Child-Pugh B) showed a large inter-subject variability, but no evidence of a consistent change in exposure or pharmacodynamics.

Drug Interactions
 A summary of the effect of co-administered drugs on dabigatran exposure in healthy adult subjects is shown in Figures 3.1 and 3.2. In the orthopedic hip surgery patients, limited clinical data with P-gp inhibitors is available.

Figure 3.1 Effect of P-gp Inhibitor or Inducer (ritonavir) Drugs on Peak and Total Exposure to Dabigatran (C_{max} and AUC). Shown are the Geometric Mean Ratios (Ratio) and 90% Confidence Interval (90% CI). The Perceptorator and Dabigatran Etexilate Dosage and Dose Frequency are given as well as the Time of Perceptorator Dosage in Relation to Dabigatran Etexilate Dosage (Time Difference)

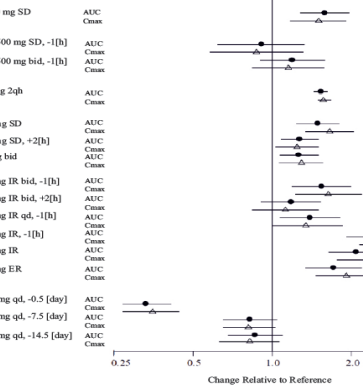
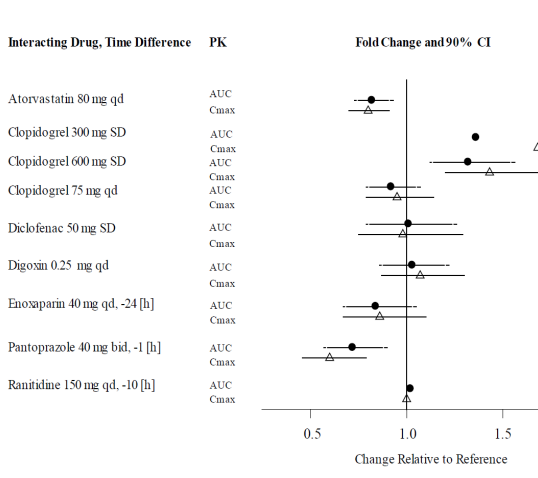


Figure 3.2 Effect of Non-P-gp Inhibitor or Inducer, Other Drugs, on Peak and Total Exposure to Dabigatran (C_{max} and AUC). Shown are the Geometric Mean Ratios (Ratio) and 90% Confidence Interval (90% CI). The Perceptorator and Dabigatran Etexilate Dosage and Dose Frequency are given as well as the Time of Perceptorator Dosage in Relation to Dabigatran Etexilate Dosage (Time Difference)



In RE-LY, dabigatran plasma samples were also collected. The concomitant use of proton pump inhibitors, H2 antagonists, and diuretics did not appreciably change the trough concentration of dabigatran.

Impact of Dabigatran on Other Drugs
 In clinical studies exploring CYP3A4, CYP2C9, P-gp and other pathways, dabigatran did not meaningfully alter the pharmacokinetics of amoxicillin, atorvastatin, clarithromycin, diclofenac, clopidogrel, digoxin, pantoprazole, or ranitidine.
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13 NONCLINICAL TOXICOLOGY
13.1 Carcinogenesis, Mutagenesis, Impairment of Fertility
 Dabigatran was not carcinogenic when administered by oral gavage to mice and rats for up to 2 years. The highest doses tested (200 mg/kg/day) in mice and rats were approximately 3.6 and 6 times, respectively, the human exposure at MRHD of 300 mg daily based on AUC comparisons.

Dabigatran was not mutagenic in *in vitro* tests, including bacterial reversion tests, mouse lymphoma assay and chromosomal aberration assay in human lymphocytes, and the *in vivo* micronucleus assay in rats.

In the rat fertility study with oral gavage doses of 15, 70, and 200 mg/kg, males were treated for 29 days prior to mating, during mating up to scheduled termination, and females were treated 15 days prior to mating through gestation Day 6. No adverse effects on male or female fertility were observed at 200 mg/kg or 9 to 10 times the human exposure at MRHD of 300 mg/day based on AUC comparisons. However, the number of implantations decreased in females receiving 70 mg/kg, or 3 times the human exposure at MRHD based on AUC comparisons.

14 CLINICAL STUDIES
14.1 Reduction of Risk of Stroke and Systemic Embolism in Non-valvular Atrial Fibrillation in Adult Patients
 The clinical efficacy for the efficacy of dabigatran etexilate capsules was derived from RE-LY (Randomized Evaluation of Long-term Antithrombotic Therapy), a multi-center, multi-national, randomized, parallel group trial comparing two blinded dosages of dabigatran etexilate capsules (110 mg twice daily and 150 mg twice daily) with open-label warfarin (dosed to target INR of 2 to 3) in patients with non-valvular, permanent, paroxysmal, or permanent atrial fibrillation and one or more of the following additional risk factors:

- Previous stroke, transient ischemic attack (TIA), or systemic embolism
- Left ventricular ejection fraction < 40%
- Symptomatic heart failure, a New York Heart Association Class 2
- Age ≥ 75 years
- Age ≥ 65 years and one of the following: diabetes mellitus, coronary artery disease (CAD), or hypertension

The primary objective of the study was to determine if dabigatran etexilate capsules was non-inferior to warfarin in reducing the occurrence of the composite endpoint, stroke (ischemic and hemorrhagic) and systemic embolism. The study was designed to ensure that dabigatran etexilate capsules preserved more than 50% of warfarin's effect as established by previous randomized double-blind controlled trials. The primary endpoint of the study was the time to first stroke or systemic embolism. Secondary endpoints were also analyzed. A total of 18,113 patients were randomized and followed for a median of 2 years. The patients' mean age was 71.5 years and the mean CHADS₂ score was 2.1. The patient population was 64% male, 70% Caucasian, 16% Asian, and 1% black. Twenty percent of patients had a history of stroke or TIA and 20% were vitamin K antagonist (VKA) naïve, defined as less than 2 months total dabigatran etexilate capsules (110 mg twice daily and 150 mg twice daily) with open-label warfarin (dosed to target INR of 2 to 3) in patients with non-valvular, permanent, paroxysmal, or permanent atrial fibrillation and one or more of the following additional risk factors:

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