Treatments for stroke prevention in Atrial Fibrillation as recommended by the Canadian Cardiovascular Society

**Coumadin® (Warfarin)**

**Does this medication need ongoing monitoring of blood clotting times?**
Yes.

When first taking Coumadin® blood or PT/INR (prothrombin time/international normalized ratio) tests may need to be done every day for a few days, then may go to once every week.

To keep your blood coagulation/ Coumadin® in the best range, these blood tests need monitoring through regular visits to a health care provider. PT/INR tests will be needed at periodic intervals throughout your course of therapy to keep your PT/INR in the best range for your medical condition.

**How do I take it?**
Coumadin® should be taken at the same time every day with or without food.

**Does this medication have any food interactions?**
Eat a normal balanced diet maintaining a consistent level of green, leafy vegetables. Do not make drastic changes in your diet, such as eating large amount of green, leafy vegetables. Avoid cranberry juice or any other cranberry products, as well as alcohol.

**Is there a reversal agent to stop its blood thinning effect?**
Beriplex® neutralizes the effects of vitamin K antagonists treatments (such as Coumadin®) by providing adequate amounts of the necessary missing or inhibited factors required for normal blood clotting. Octaplex® can temporarily stop bleeding in patients with deficiency that is caused by Vitamin K antagonists (such as Coumadin®) of one or several of the coagulation factors II, VII, IX, and X, commonly called the Prothrombin Complex.
Vitamin K₁ compounds, such as phytonadione, promote the activation of prothrombin in the liver, but do not directly reverse the effects of Coumadin®.

When should treatment not be used?
Do not take Coumadin® if you:
• Are pregnant or plan to become pregnant
• Are allergic (hypersensitive) to warfarin, sodium or any of the components in Coumadin®.

What are some of the possible blood thinner side effects?
Coumadin® may cause bleeding, which may be serious and life-threatening. Other side effects include:
• Headache, dizziness or weakness
• Fatigue, feeling tired, general feeling of illness
• Bleeding from shaving or other cuts that does not stop
• Bleeding from gums when brushing teeth
• Nosebleeds
• Coughing up blood
• Vomiting blood or material that look like coffee grounds
• Unusual bruising for unknown reasons
• Pink or dark brown urine
• Red or black color on your stool
• More bleeding than usual when you get your menstrual period or unexpected bleeding from vagina
• Unusual pain or swelling

Are there any interactions with the medication to be aware of?
The following may interact with Coumadin®:
• Aspirin and aspirin-containing ointments and skin creams
• Natural medicines including garlic and ginkgo biloba
• Some of your medicines may affect the way Coumadin® works, so tell your health provider about any prescription or non-prescription medication, vitamins, and herbal supplements
• Other medication that contain warfarin
• Cranberry juice and other cranberry products
• Avoid alcohol consumption

Tell your health care provider about any prescription and non-prescription drugs that you are taking. Do not take any other medications that contain warfarin.
Pradaxa® (Dabigatran Etexilate)

Does this medication need ongoing monitoring of blood clotting times?
No.

How do I take it?
Pradaxa® should be taken twice a day with a full glass of water and can be taken with or without food.

Does this medication have any food interactions?
None.

Is there a reversal agent to stop its blood thinning effect?
Praxbind™ (idarucizumab), binds to Pradaxa®, reversing its anti-clotting effect.

When should treatment not be used?
Do not take Pradaxa® if you:
• Have severely reduced kidney function or your kidneys do not function
• Have active bleeding or bleed excessively
• Have a disease that increases your chances of bleeding, or bleeding in the brain (stroke) within the last 6 months or recent bleeding of a stomach ulcer
• Have an epidural or spinal catheter in place or within the first two hours after its removal.
  Your doctor will know what precautionary measures are required. Pradaxa® is not recommended for patients receiving epidural pain control after surgery
• Are taking oral ketoconazole, used to treat fungus infection
• Are already taking another blood thinner, including apixaban (Eliquis®), bivalirudin, dalteparin, enoxaparin, fondaparinux, rivaroxaban (Xarelto®), edoxoban (Lixiana®), unfractionated heparin, warfarin (Coumadin®), unless your physician has decided to switch you to or from Pradaxa®
• Have an artificial heart valve
• Are breastfeeding. It is possible that Pradaxa® passes into breast milk
• Are allergic to dabigatran etexilate, dabigatran, or any other ingredient in the formulation

What are some of the possible blood thinner side effects?
As Pradaxa® acts on the blood clotting system, most side effects are related to signs of bruising or bleeding. Although rare in frequency in clinical trials, Pradaxa® can cause very serious or severe bleeding that can occur in any part of your body. These bleedings may reduce your physical abilities or even lead to death.
Patients treated with Pradaxa® may experience the following side effects:

- Abdominal pain, diarrhea, heartburn, nausea, reflux of gastric juice, upset stomach, vomiting;
- Difficulty swallowing
- Bruising
- Hives, itching, rash
- Anemia
- Bleeding from the penis/vagina
- Blood in the urine that stains it pink or red
- Bleeding in the stomach or bowel
- Bruising or bleeding due to injury or after operation
- Severe bleeding or liquid oozing from the surgical wound after surgery, an injury or other procedures
- Nose bleed
- Bleeding under the skin

Are there any interactions with the medication to be aware of?

The following may interact with Pradaxa®:

- Antifungal drugs, including orcal itraconazole and posaconazole
- Blood thinners, including clopidgrel, prasugrel (Effient®) or ticagrelor (Brilinta®)
- Antiretroviral drugs, used to treat HIV, including nelfinavir, ritonavir, saquinavir, and tipranavir
- Antacids, used to treat heartburns. If you need to take an antacid, take it at least two hours after taking Pradaxa®.
- Antibiotics, including rifampicin and clarithromycin
- Antidepressants, in particular selective serotonin re-uptake inhibitors (SSRIs) or selective serotonin norepinephrine re-uptake inhibitors (SNRIs)
- Nonsteroidal anti-inflammatory drugs (NSAIDs), used to reduce pain and swelling
- Drugs used to prevent organ rejection after transplantation, including cyclosporine and tacrolimus
- Drugs used to treat epilepsy, including carbamazepine
- Drugs used to treat irregular heartbeats, including amiodarone (Cordarone®), dronedarone (Multaq®) and quinidine.
- Proton pump inhibitors, used to treat heartburn
- St. John’s wort (a herbal supplement used for depression)
- Verapamil, used to lower blood pressure
**Xarelto® (Rivaroxaban)**

Does this medication need ongoing monitoring of blood clotting times?
No.

How do I take it?
Xarelto® should be taken once a day with food.

Does this medication have any food interactions?
None.

Is there a reversal agent to stop its blood thinning effect?
No product exists to reverse the effects of Xarelto®.

When should treatment not be used?
Do not take Xarelto® if you:
- Are taking other anticoagulants (blood thinners) such as warfarin, apixaban, dabigatran, heparin or low molecular weight heparin (LMWH) including enoxaparin, dalteparin or heparin derivatives, such as fondaparinux
- Have an artificial heart valve
- If you are pregnant or breastfeeding
- If you are allergic (hypersensitive) to rivaroxaban (active ingredient of Xarelto®) or any of the other ingredients of Xarelto®
- Are taking certain oral medications to treat fungal infections or HIV/AIDS, such as Nizoral® (ketoconazole) or Norvir® (ritonavir)
- Are aware of body wounds or injuries at risk of bleeding, including bleeding in the brain or bleeding in your stomach or gut
- Have active bleeding, especially if you are bleeding excessively
- Have severe liver disease which leads to an increased risk of bleeding

What are some of the possible blood thinner side effects?
As Xarelto® acts on the blood clotting system, most side effects are related to signs of bruising or bleeding. Major or severe bleeding may occur and, regardless of location, may lead to disabling, life-threatening outcomes.

Other side effects include:
- Stomach ache
- Nausea
• Vomiting
• Constipation
• Diarrhea
• Indigestion
• Decreased general strength and energy

Are there any interactions with the medication to be aware of?
The following may interact with Xarelto®:
• Oral medications to treat fungal infections such as ketoconazole, itraconazole, posaconazole
• Anticoagulants (blood thinners) such as warfarin (Coumadin®), heparin or low molecular weight heparin (LMWH) including enoxaparin, fondaparinux, bivalirudin, apixaban, dabigatran, or anti-platelet agents, such as clopidogrel, ticlopidine, prasugrel, ticagrelor
• Medications for HIV/AIDS such as ritonavir [Norvir®] and lopinavir/ritonavir [Kaletra®]
• Anti-inflammatory and pain relieving medicines including non-steroidal anti-inflammatory drugs (NSAIDs) (eg, naproxen [Naprosyn®] or acetylsalicylic acid [Aspirin®])
• Some antibiotics such as clarithromycin rifampicin
• Anticonvulsants (to control seizures or fits) such as phenytoin, carbamazepine, phenobarbital
• St John’s Wort (a herbal supplement used for depression)

Eliquis® (Apixaban)

Does this medication need ongoing monitoring of blood clotting times?
No.

How do I take it?
Eliquis® should be taken twice a day with or without food.

Does this medication have any food interactions?
None.

Is there a reversal agent to stop its blood thinning effect?
No product exists to reverse the effects of Eliquis®.
When should treatment not be used?

Do not take Eliquis® if you:

• Are already taking medicines to prevent blood clots, e.g. warfarin (Coumadin®), heparin, rivaroxaban (Xarelto®), dabigatran (Pradaxa®), unless your physician has decided to switch you to Eliquis®
• Have an artificial heart valve
• Are pregnant
• Are allergic (hypersensitive) to apixaban (active ingredient of Eliquis®) or any of the other ingredients of Eliquis®
• Are taking oral ketoconazole (a drug used to treat fungus infection)
• Have certain types of abnormal bleeding such as recent bleeding of a stomach ulcer
• Are aware of body lesions at risk of bleeding, including bleeding in the brain (stroke)
• Have active bleeding, especially if you are bleeding excessively
• Have a severe liver disease which leads to increased risk of bleeding (hepatic coagulopathy)
• Are also taking prasugrel (Effient) or ticagrelor (Brilinta)
• Are younger than 18 years old

What are some of the possible blood thinner side effects?

As Eliquis® acts on the blood clotting system, most side effects are related to signs of bruising or bleeding. Major or severe bleeding may occur and, regardless of location, may lead to disabling, life-threatening outcomes.

Other side effects include:

• Nausea
• Anemia, which may cause loss of energy or weakness

Are there any interactions with the medication to be aware of?

The following may interact with Eliquis®:

• Some medicines for fungal infections (e.g. ketoconazole, itraconazole, voriconazole and posaconazole)
• Other medicines that are used to reduce blood clotting (e.g. enoxaparin, clopidogrel, prasugrel)
• Some antiviral medicines for HIV / AIDS (e.g. ritonavir)
• Anti-inflammatory or pain medicines (e.g. aspirin or naproxen)
• Medicines for high blood pressure or heart problems (e.g. diltiazem)
• Medicines to treat tuberculosis or other infections (e.g. rifampin, rifampicin)
• Medicines to prevent epilepsy or seizures (e.g. phenytoin, carbamazepine, or phenobarbital)
• St John’s Wort (a herbal supplement used for depression)

Lixiana® (Edoxaban)

Does this medication need ongoing monitoring of blood clotting times?
No.

How do I take it?
Lixiana® should be taken once a day with or without food.

Does this medication have any food interactions?
None.

Is there a reversal agent to stop its blood thinning effect?
No product exists to reverse the effects of Lixiana®.

When should treatment not be used?
• Do not take Lixiana® if you:
• Are already taking medicines to prevent blood clots, e.g. warfarin, dabigatran, or apixaban
• You are at risk of serious bleeding. This may be because you had recent bleeding in the brain or have active ulcers that are bleeding or were recently bleeding
• You have liver and blood-clotting problems
• Have an artificial heart valve
• If you are pregnant or breastfeeding
• You are allergic to edoxaban (active ingredient of Lixiana®) or any of the other ingredients in Lixiana®

What are some of the possible blood thinner side effects?
• Lixiana® affects blood clotting. Most side effects are related to bleeding. Lixiana® can cause bleeding that is serious and may lead to death.
Other side effects include:

• Rash or itchy skin
• Anemia, fatigue, loss of energy, weakness, shortness of breath
• Bleeding in the stomach or bowel: dark stool (like tar), bright red blood in your toilet or on toilet tissue, vomiting blood
• Bleeding from mouth or gums
• Bruising and swelling
• Blood in urine
• Vaginal bleeding: increase in or more frequent menstrual bleeding, unexpected vaginal bleeding

Are there any interactions with the medication to be aware of?
The following may interact with Lixiana®:

• Cyclosporine, dronedarone, erythromycin, ketoconazole, quinidine, verapamil
• Anticoagulants (medications to prevent blood clots)
• Aspirin and other nonsteroidal anti-inflammatory drugs such as naproxen
• Drugs that block the action of platelets, such as clopidogrel