

A Patient's Guide to Antithrombotic Therapy in Atrial Fibrillation

PATIENT EDUCATION GUIDE

AMERICAN COLLEGE OF CHEST PHYSICIANS

What is atrial fibrillation?

- ◆ Atrial fibrillation is a condition that occurs when the normal electrical activity in the upper chambers of the heart (the atria) becomes irregular. As a result, the heart no longer beats in an organized way, resulting in an irregular heartbeat and the heart pumping less efficiently.
- ◆ Atrial fibrillation is common. About 1 in 4 people aged 40 years and older will develop AF in their lifetime.

What are the symptoms of atrial fibrillation?

- ◆ People with atrial fibrillation may have symptoms such as palpitations, shortness of breath, chest discomfort or pain, dizziness, tiredness, or fainting.
- ◆ Other people with atrial fibrillation may not have any symptoms at all and only discover they have atrial fibrillation through routine checks or following a hospital visit for another condition.

Why do people with atrial fibrillation need to take a blood-thinning medication?

- ◆ Due to the irregularity in the beating of the heart, the flow of blood is affected. This can cause blood cells to stick together and increases the risk of a blood clot forming in the upper chamber of the heart (atria).
- ◆ In people with atrial fibrillation, the most common place for these blood clots to travel to is the brain, resulting in a stroke.
- ◆ People with atrial fibrillation have a fivefold increased risk of having a stroke compared with someone of the same age who does not have atrial fibrillation.
- ◆ Taking a blood-thinning medication reduces the blood's ability to clot, and this can reduce the likelihood of suffering from a stroke in the future.

What is a blood clot?

- ◆ A blood clot is formed by blood cells and other material sticking together to form a solid mass inside a blood vessel, which can then block off the flow of blood.
- ◆ Blood clotting is harmful when it occurs inside blood vessels (veins or arteries) and causes a blockage of the blood flow. The medical term for a blood clot that blocks off the flow of blood is an "embolism."
- ◆ In people with atrial fibrillation, the most common place for these blood clots to travel to is the brain. The medical term for a blood clot that blocks off the flow of blood to the brain is a "cerebral embolism," more commonly known as a stroke.

Are there different types of stroke?

- ◆ There are two main types of strokes.
- ◆ If a blood clot blocks a blood vessel (an artery) in the brain, this is known as an “ischemic stroke.”
- ◆ If a bleed occurs in the brain, it is known as a “hemorrhagic stroke.”
- ◆ When a patient with atrial fibrillation has a stroke, it is usually more severe and is more likely to result in death or disability compared with strokes in patients who do not have atrial fibrillation.
- ◆ About one in four ischemic (“clotting”) strokes and half of all hemorrhagic (“bleeding”) strokes are fatal.
- ◆ For patients who survive a stroke, some make a full recovery while others are left with some disability, such as weakness in one side of the body, problems with walking, and the inability to speak. The level of disability following a stroke can vary considerably.

What are risk factors for stroke in patients with atrial fibrillation?

- ◆ Previous stroke (including a “mini-stroke,” also called a “transient ischemic attack”)
- ◆ Heart failure (now or in the past)
- ◆ High blood pressure (even if under control with medication)
- ◆ Age (the risk increases as we get older)
- ◆ Diabetes mellitus
- ◆ Vascular disease (previous heart attack, blockages in leg arteries (“peripheral arterial disease”))
- ◆ Female sex

Is the risk of stroke the same for everyone who has atrial fibrillation?

- ◆ No. The risk of stroke in patients with atrial fibrillation depends on whether you have any of the other risk factors for stroke (previous stroke or transient ischemic attack, high blood pressure, heart failure, older age (eg, age 65 years and older), diabetes mellitus, vascular disease, or female sex) and, if so, how many of these risk factors you have.
- ◆ In general, the more risk factors you have, in addition to atrial fibrillation, the greater your risk of stroke.

What measures can be used to reduce the risk of stroke?

- ◆ Blood thinning drugs, such as anticoagulants or antiplatelets, can be taken to reduce clotting, thereby reducing the chance of a stroke occurring.

What are the different kinds of blood thinners used in atrial fibrillation?

- ◆ Aspirin
- ◆ Clopidogrel (Plavix)
- ◆ Warfarin (Coumadin)
- ◆ Dabigatran (Pradaxa)
- ◆ Rivaroxaban (Xarelto)

What are the main features of these blood thinners?

Antiplatelet drugs (aspirin, clopidogrel [Plavix])

- ◆ Aspirin is taken as a pill and has been used for more than 30 years as a blood-thinning medication for patients with atrial fibrillation. It prevents the blood's ability to clot by preventing platelets, which are parts of the blood, from sticking together.
- ◆ Clopidogrel (Plavix) is also taken as a pill. Like aspirin, it prevents the blood's ability to clot by preventing platelets from sticking together. Sometimes both aspirin and clopidogrel will be taken together as blood-thinning treatment for patients with atrial fibrillation.

Oral anticoagulant drugs (warfarin [Coumadin], dabigatran [Pradaxa], Rivaroxaban [Xarelto])

- ◆ Warfarin (Coumadin) has been used for more than 50 years. It is taken as a pill and is currently the most commonly used blood-thinning treatment.
- ◆ Patients who take warfarin require regular blood tests to measure the drugs' blood thinning effects (measured using the international normalized ratio [INR]) to make sure that the blood does not become too thin or too thick. Your dose of warfarin may need to be altered (increased or decreased) to make sure the warfarin is working effectively. If you are taking warfarin, you should also read the two sections at the end of this guide titled, "What is the INR?" and "What factors can affect INR control?"
- ◆ Dabigatran (Pradaxa) and Rivaroxaban (Xarelto) are new blood thinning medications that are also taken as pills. Either one can be taken instead of warfarin and, unlike warfarin, neither requires regular blood testing. Both drugs are US Food and Drug Administration-approved to help to prevent stroke in patients with atrial fibrillation.

When should treatment be given to prevent stroke in patients with atrial fibrillation?

- ◆ Preventive treatment consisting of a blood thinner should be considered for the majority of patients with atrial fibrillation who have one or more risk factors for stroke (previous stroke or transient ischemic attack, high blood pressure, heart failure, age 65 years and older, diabetes mellitus, or vascular disease). Female patients are at higher risk than men, particularly when aged 65 years and older.
- ◆ Patients who have had a previous stroke or transient ischemic attack ("mini-stroke") should receive a blood-thinning medicine to help to prevent another stroke.
- ◆ In general, the most effective blood-thinning medicine to use to reduce the risk of stroke is an oral anticoagulant. However, the benefit of blood-thinning medication (ie, reduction in the risk of stroke) needs to be weighed against the increased risk of bleeding when blood thinning medications are used for treatment.

If necessary, how can I decide which of these blood thinners to take?

- ◆ Studies have shown that all of the previously mentioned drugs are effective for the treatment of atrial fibrillation compared with no treatment, and you and your doctor should discuss which one you should use.
- ◆ The decision about which blood-thinning medicine is most appropriate for you will be made following a discussion between you and doctor. It will be based on your individual risk of stroke and your risk of bleeding with the medication.

What are side effects of treatment with blood thinning medications?

- ◆ The most common side effect that occurs with all blood thinning medications is bleeding. In most cases, bleeding is not serious, such as bruising or a nosebleed. About 1% to 2% of people on blood thinners will develop more serious bleeding (such as bleeding from the stomach (vomiting blood) or bowels (blood in stools/feces), which may require a blood transfusion and interruption of blood thinning treatment.
- ◆ The most serious bleeding side effect from blood thinning medication is a bleed into the brain, known as an "intracranial hemorrhage."
- ◆ Other problems, such as headache, nausea, or stomach upset, which are common with many drugs, are less common with blood thinners and, if they occur, should prompt you to seek medical attention to look for another cause.

Will my blood-thinning medication always stay the same?

- ◆ Your blood-thinning medication may change over time as your risk of stroke changes. For example, it may change as you get older or if you are at risk of major bleeding by continuing to take a blood-thinning medication. Your doctor will discuss any changes that may need to be made to your medication as necessary.
- ◆ There are also some situations in which your doctor may alter the blood-thinning medication you take, for example, after a heart attack and/or when you have a stent fitted to open up a blocked artery in your heart. Your doctor will discuss with you any changes that may need to be made to your medication, as necessary.
- ◆ If you and your doctor decide that you would like to try to restore your heart rhythm from atrial fibrillation to the heart's normal rhythm (known as "sinus rhythm"), then your doctor may suggest a controlled electric shock to the heart (known as "electrical cardioversion") or a specialized procedure known as "catheter ablation." If you decide to have a cardioversion or an ablation procedure, you will need to take an anticoagulant drug for a period of time before and after the procedure to reduce the risk of a blood clot forming as a result of the procedure.

For how long do I need to take a blood-thinning drug?

- ◆ Patients with atrial fibrillation will usually stay on their blood-thinning medication for life. There may be some circumstances when your blood-thinning medication is stopped, but if it is necessary to stop this medication, your doctor will explain the reasons for this to you.

The following two sections only apply to patients taking warfarin (Coumadin).

What is the INR?

- ◆ The INR (international normalized ratio) is a measure of how fast blood clots and evaluates the effectiveness of warfarin in thinning the blood.
- ◆ People who are not taking blood-thinning medication will have an INR of around 1.0. To reduce the risk of stroke in atrial fibrillation, the blood needs to be 2 to 3 times thinner than normal. This means that the blood takes 2 to 3 times longer to clot than normal.
- ◆ People with atrial fibrillation have a target INR range of 2.0 to 3.0.
- ◆ If blood is too thick (INR less than 2.0), you are still at greater risk of stroke.
- ◆ If blood is too thin (INR greater than 3.0), this can increase your risk of bleeding.

What can I do to help to keep my INR in the therapeutic range?

- ◆ If you drink alcohol, make sure that you only drink small amounts of alcohol each week (no more than 8 drinks per week in total, over three or more days).
- ◆ Make sure that you check with a doctor or pharmacist every time you are prescribed a new medication or when you buy medicines (including herbal remedies and vitamin tablets) over the counter. You need to make sure they are all compatible to take with warfarin.
- ◆ Try to maintain the same level of vitamin K in your diet. This can be achieved by eating the same types of food in your diet and eating regular meals.

Where to find additional information:

Antithrombotic therapy in atrial fibrillation: American College of Chest Physicians evidence-based clinical practice guidelines, 9th edition. *Chest*. 2012;141(2 suppl):285S-571S.

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